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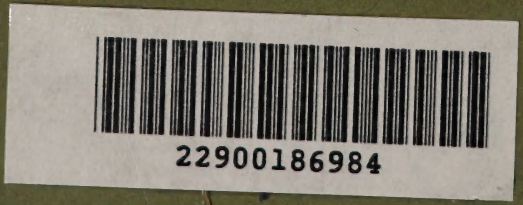
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The London Medical Recorder.

KOCH'S TREATMENT.

THE numerous reports on Koch's treatment which have been published during the last month confirm, in a general way, the earlier observations of Koch himself, as well as those of von Bergmann, Levy, and Gerheardt, which we referred to in last month's "Mirror." As to the diagnostic value of the fluid, nearly all observers agree that it is very great. Doses of one or two milligrammes, or even less, produce a general and local reaction in persons the subject of tubercular lesions, while no reaction is observed after considerably larger doses in non-tubercular subjects. Nevertheless, on this important matter, the observations are not unanimous. Dr. Robertson, for instance, writing in the *British Medical Journal*, states that a case of phthisis pulmonalis, in the Glasgow Royal Infirmary, was injected on December 16th with one milligramme, and on December 18th with two milligrammes, without any reaction occurring. The tuberculous nature of the case was beyond doubt, and tubercle bacilli were present in the sputa. The strongest evidence that uniform reliance cannot be placed on the diagnostic value of the fluid is that published by Maydl of Vienna (*Intern. klin. Rundschan*). He treated six cases of undoubted tuberculosis with the fluid, and in five of them reaction took place; but in one case, a boy aged ten, reaction occurred only after a fourth injection, the dose being six milligrammes. He injected six perfectly healthy adults, as control-subjects, and three of these reacted; one very severely, after two milligrammes, the other two after five and eight milligrammes respectively. Maydl also refers to a case of tuberculosis of the larynx and lungs, under Professor Schnitzler, in which the injection of twenty-five milligrammes caused no reaction.

The beneficial effect of Koch's treatment in cases of lupus may be said to be already well established. All observers agree that marked improvement takes place, and even if cases are not completely cured, at all events it seems that more successful results can be obtained than by any method of treatment hitherto known. Professor Cornil, in a recent lecture on the subject, states that between the crusts which form on the surface of the lesions, as the result of the treatment, can be seen a layer of white corpuscles, brought thither by diapedesis, and among these corpuscles are numerous tubercle bacilli. He, therefore, thinks that the remedy, instead of destroying the bacilli, drives them to the surface, together with the serous discharge which it sets up. He argues from this that *a priori* one should expect improvement in proportion to the extent to which the products of increased secretion can be eliminated. In tuberculosis of joints and other deeper parts, where there are no fistulæ to allow the serosity to escape, he does not anticipate encouraging results. Rydygier, of Cracow, expresses a similar view, from his experience of the treatment in bone and joint diseases. Acting on this belief he, in one case, excised a wedge-shaped piece from a tuberculous ankle-joint, while it was in the condition of reaction, in order to establish an open fistula.

It must be confessed that the results of the treatment in pulmonary tuberculosis are not as encouraging as one hoped for. It is true that benefit has been recorded in several cases, but it is as yet impossible to judge what amount of permanent benefit has been achieved. On the other hand, there is now ample evidence that severe and even dangerous symptoms may be set up by the treatment even in cases apparently little advanced; that latent foci of disease may be lighted up into activity, without any corresponding benefit, and that, in fact, a case may be made in every respect worse. In not a few cases of pulmonary phthisis in which the treatment had been initiated, it had to be abandoned owing to aggravation of the disease, while in a few cases death has occurred apparently as the direct result of the treatment. Here, again, the want of success is probably due to an absence of any channels by which the products of the local reaction can be eliminated. M. Cornil thinks that in a limited number of cases, in which there are cavities communicating freely with the bronchial tubes, with little or no fever, and not much impairment of strength, the treatment may be of use. Two patients of this kind under his care seemed to derive real benefit from the treatment.

In tuberculosis of the larynx several observers have favourably reported on the use of the remedy. Great care is of course needed to avoid dangerous accidents from the local swelling. It seems, however, highly probable that, combined with incisions and curetting, this remedy will yield more successful results in tuberculosis of the larynx than any of the methods of treatment hitherto in use.

MIRROR-WRITING.

DR. D'ABUNDE GUISEPPE, assistant-physician in the Psychiatric Clinique of Pisa, has been making some observations on mirror-writing, the honour of which he has endeavoured to secure by what is called a preventive communication made on the 2nd of March to the Tuscan Society of Natural Science, followed up by a paper in the *Archivio Italiano* for September, 1890. He records, in a note, that since writing this paper it had come to his notice that Professor Lombroso had quoted "L'osservazione di Jerland," bearing upon the subject (possibly meaning Dr. Ireland). Nevertheless, as Dr. D'Abunde Guiseppe's observations have been made apparently without much aid from those of prior observers, the confirmation afforded by these new studies is none the weaker. Dr. Guiseppe had a patient, Signor R., thirty-three years old, afflicted for about two years with writer's cramp, whom he treated with electricity. The affection remaining obstinate, he began to practise writing with his left hand, when it was found that he automatically wrote from left to right. When R. tried to use his left hand to write from left to right—this caused painful sensations in the right hand; while writing from right to left was unattended with any return of the spasms. In making experiments upon left-handed individuals, Dr. Guiseppe found that those most accustomed to writing (which they did with their right hands as taught at school) wrote in mirror-writing with the greatest ease with the left. Dr. Guiseppe had an opportunity of observing the case of a boy of ten years of age, who, naturally left-handed, had been made to write with his right hand. After sustaining a fracture of the right arm, he took to writing with his left hand. Dr. Guiseppe

found that this boy could execute mirror-writing with great ease, though he wrote awkwardly in the opposite direction. As the result of his observations, Dr. Guiseppe found that those who had lost the use of their right hands, and were obliged to use their left, had greater ease in executing mirror-writing the younger they were when the injury happened, and that most persons succeeded better in writing mirror-writing with their left hands than with their right. Dr. Guiseppe observes that the motor-centre for writing is mainly on the left side save in left-handed people, but that the homologous parts of the brain on the other side may also be educated to execute writing. He points out that while the writing of the Greeks and Latins was from left to right, that of the Semitic races, such as the Hebrews and Arabs, has always been from right to left. The Etruscans also wrote in this way. It is known that letters were introduced into Europe by the Tyrians, who were a Semitic people. He points out, however, that the oldest Greek inscriptions were done Βουστθοφηδὸν, as a man ploughs—that is, first from the right and then from the left. Copies of such ancient inscriptions, alternately in direct and inverse characters, are given with other specimens in a lithographed sheet.

[In Dr. Ireland's essay on "Mirror-writing," published in *The Blot on Brain*, he has put the question :—"Is the image or impression, or change in the brain-tissue, from which the image is formed in the mind of the mirror-writer, reversed like the negative of a photograph; or, if a double image be formed in the visual centre, one in the right hemisphere of the brain and the other in the left, do the images lie to each other in opposite directions—*e.g.*, C on the right side and Ɔ on the left side?" It would appear that this view is confirmed by the observations of Dr. D'Abunde Guiseppe.—*Rep.*]

A YEAR'S WORK IN DISEASES OF THE RECTUM.*

This lecture was delivered to the New York Post-Graduate School by Prof. Kelsey at the close of the first year of clinical instruction in diseases of the rectum. As may be readily imagined, several rare cases had come under observation. The amount of material, moreover, that presents itself in a special hospital of this kind affords excellent opportunity of arriving at general conclusions regarding the commoner maladies that cannot fail to be of value to the profession at large.

The writer first mentions three deaths after colotomy. In two of them there was acute intestinal obstruction from cancerous masses higher up in the gut. In the third the fæcal mass had ruptured the bowel. Four successful colotomies included one of non-malignant ulceration and stricture high up in the bowel, incurable by any other means. Another was a child of seven months, born with an imperforate anus. At the time of birth an incision had been made into the blind rectal pouch. Since then the child had been kept alive, suffering about equally from obstruction and the efforts made by bougies to overcome it. Still, under unfavourable conditions, the patient had done well after the operation. The two remaining colotomies were done for simple fibrous partitions between the rectum and the anus, which allowed the escape of a small amount of fæces, and which might have been relieved, at least for a time, by division and subsequent dilation. Dr. Kelsey says:—"Had I desired to give only temporary relief to the obstruction, I should have cut and dilated the stricture; but wishing to see this child grow to adult age, I have made an entirely new outlet for the fæces; and preferring to do this with the least possible shock and immediate risk, have made that outlet in the left inguinal region." Perhaps the rarest case was that of a girl of thirteen, with advanced lupus of the ano-valvular region, and consequent stricture of the rectum. The disease had existed for six years. Although the history is imperfect, and the parents deny syphilis, yet the very marked improvement under anti-syphilitic remedies points to a specific origin. The special interest of the case lies in the age of the patient. When first seen it seemed as if colotomy must be the only resource, but now there appears to be a fair chance of recovery without operation. Numerous varieties of benign stricture have been demonstrated, together with almost every mode of treatment. Besides such forms as the syphilitic, dysenteric, tubercular, and that due to pressure of pelvic exudation in a woman, there are others caused by simple ulceration, which can only be accounted for by some such simple traumatism as that resulting from hard fæces or from child-birth. The writer strongly insists on the small number of cases in which it is possible to trace any venereal origin of the disease, and points out the danger of jumping to the conclusion that a stricture must be of necessity either cancerous or syphilitic. Treatment includes colotomy for the bad cases, excision where practicable, and proctotomy. The latter is the one method which should be relied on in the greater number of cases, and by it many patients may be made comfortable for life. It must be patiently and intelligently carried out, and supplemented by systematic dilation. It is, unfortunately, a method for the rich, and one covering years of patient work, so that it is seldom applicable to the poor in hospital practice.

One must always bear in mind that proctotomy is only the beginning of the treatment. By following it up carefully, the nearest approach to a cure is obtained that can be hoped for in the present state of our knowledge.

In the treatment of hæmorrhoids it is noteworthy that the clamp and cautery operation has been used in all cases except one. The special advantages claimed for it are quicker recovery and less pain than by any other method of cure. Again and again patients have been able to come downstairs to the out-patient room forty-eight hours after the operation, and have said that after the first few hours there was only a sense of soreness and some pain on defæcation. Physicians thus treated have left the hospital and started in comfort on long journeys on the fourth day, although, of course, the operator has never advised such a proceeding. The average stay in hospital has been a week. The surest way to avoid accidents is to thoroughly cauterise the stump while held in the clamp, after cutting off the body of the hæmorrhoid with a pair of scissors. It is important to see that there is no bleeding from the cauterised surface. After the completion of the operation, a large speculum is introduced, and the rectum well irrigated with bichloride of mercury solution. Should bleeding then occur, it simply means that the operation is not completed, and the bleeding points must be secured. The hæmorrhage alluded to is that which proceeds from the cavity of

* By Dr. Kelsey. "New York Medical News," Dec. 6, 1890.

the gut and not from the cutaneous cuts of the scissors. On the other hand, should there be no bleeding, there is no more likelihood of secondary hæmorrhage than there is after the ligature. Cutaneous bleeding is controlled by direct pressure with pad and bandage. The single case of hæmorrhoids not treated in this way was that of a woman at the end of the third month of pregnancy. She was covered with a syphilitic eruption, which put operation out of the question, but the pain and loss of blood at each act of defæcation demanded some measure for relief. A few drops of a ten-per-cent. solution of carbolic acid were injected into two of the hæmorrhoids, and a third one, with an eroded, strawberry-like surface, was painted with nitric acid. This treatment accorded entire relief. The woman, however, was certainly not cured, as she herself imagined, and what was done was not free from serious risks of sloughing and abscess, though less likely than a radical cure to induce miscarriage. Treatment on these lines may be carried out in many cases with the same happy results. "It is a fascinating procedure to both patient and surgeon till the bad case comes along; but after causing one severe phlegmonous inflammation of the peri-rectal cellular tissue, the surgeon generally abandons it for methods attended with less risks and with more permanent results."

Fistulæ of every variety came under observation. In one case a large recto-vaginal opening was associated with abscess behind the uterus. The attempt to reach and suture the fistula by a Kraske's incision did not succeed. This failure was perhaps owing to the difficulty of reaching an opening so near the uterus, or to the discharging abscess. Another bad case of fistula-in-ano, extending deep into the pelvis, was due to carious bone on the lateral and anterior surfaces of the sacrum. The first operation failed, as the incisions were not carried deep enough. At the second trial the coccyx and lower sacral vertebræ were removed, and the incision having been carried along to the middle of the sacrum, the diseased bone was scraped away. Tracks running round the deep urethra on both sides of the triangular ligament were also scraped out with the finger. The wound has healed with the exception of a sinus admitting a fine probe and leading to the stump of the sacrum.

Altogether, this paper forms an interesting summary of our knowledge on the special subject of the surgery of the rectum.

THE EXAMINATION OF ONE HUNDRED BRAINS OF FEEBLE-MINDED CHILDREN.*

The examinations of these brains were made at the Pennsylvania Institution for Feeble-Minded Children, of which Dr. Wilmarth is Assistant Superintendent. There is no question as to the value of his paper, and it is an objection which we have not often to make in similar cases that it is too short, filling only fourteen pages. To examine a hundred such brains requires an enormous deal of work, and few pathologists would be content to suppress details, and simply to present results. As it stands, it is difficult to suppress suspicions that equal care has not been taken with all the brains. Dr. Wilmarth tells us that in seventy-five cases the brain was carefully weighed, and that the average weight was 38·3 ounces. In fourteen cases the weight was below 30 ounces. It would have cost little space and trouble to have given a table of these weights, and to have mentioned the cases in which half of the brain was weighed separately. He describes the brain of an idiot in which there was a great increase of the connective tissue, and two blocks of sclerosis were found in the left hemisphere, one in the occipital and the other in the motor region. The corpus callosum has "only two-thirds of its usual width, ending just in front of the pineal gland." The middle and posterior commissures were wanting, and there was no optic commissure. All that we are told of the nervous and mental symptoms accompanying this interesting pathological condition is that the subject was "a mute idiot." Dr. Wilmarth observes that in the brains of these idiots "probably the most frequent morbid condition met with is sclerosis in its various forms. The most destructive of these to the functional activity of the part involved is the so-called sclerose tuberense. It is usually seen on removing the membrane, as one or more areas of a white colour and considerably harder in consistence than the surrounding tissue, slightly elevated above the level of the neighbouring convolutions. It may be single, but is usually multiple. It seems to be formed by a finely granular exudate, probably albuminous in character. If it occurs in the motor regions of the brain, the resulting paralysis is very complete, and if a large portion of the cortex is implicated profound idiocy is liable to be the result." In these cases the gradual increase of the hardened tissue was generally indicated by spasms. There was sometimes hemiplegia on the side opposite the hemisphere in which the sclerosis was found to be most extensive. Localised atrophy of the brain-tissue is usually associated with the sclerosis, and these two conditions were found to be commonest in the frontal and occipital regions.

Here is an example of Dr. Wilmarth's cases:—"47-1476.—Born 1877. Weighed only three and one-half pounds at birth. Spasms began at twenty months old. Was free from them from 1881 to 1883, when they again began and continued with intervals of about two weeks until her death. Was very slow of comprehension, and her memory very defective. Vision defective, having, as far as we could ascertain, hemianopsia. A large block of sclerosis was found in the right hemisphere, involving the angular gyrus and encroaching on the second occipital, supermarginal and posterior portions of the first and second temporal gyri. The right hemisphere weighed five ounces less than the left, notwithstanding the fact that she was left-handed."

In another place he remarks:—"Non-development is found in several forms. A portion of the cortical substance may be thin, and, instead of following the typical arrangement of the fully developed brain, form a number of irregular folds, which may be so small and numerous as to resemble a mass of angle worms. Again, the gyri may be of a normal size and appearance, but show a diminution in number, or absence of ganglionic cells in certain layers. Or, again, the convolutions may begin of normal size and development, but soon diminish and sink beneath the surface of the hemisphere, or perhaps entirely disappear, before acquiring near their normal length."

Dr. Wilmarth describes an idiot who died when

* By A. W. Wilmarth, M.D., Elwyn, Pa. The "Alienist and Neurologist," October, 1890.

twenty-two years old. The walk and grasp were faulty; sight, hearing, and general sensation were defective, and speech very imperfect. There was a general decline of all powers, physical and mental, which went on to the end. But the brain, we are told, "was of good size, well formed, and no change, macroscopic or microscopic, was found The only explanation seemed to be that the gradual destruction of functional activity was due to trophic changes, induced, perhaps, by disordered circulation, the result of frequent and severe spasm."

The following passage may throw light upon an interesting variety:—

"Five cases of 'Mongolian idiocy' are included. In all these the brains are of good size for imbecile brains, the pons and medulla alone being very small, weighing in each case about one half-ounce, whereas the usual weight is nearly twice as much. The cerebral vessels are inclined to be much thinner than in healthy brains." What is the meaning of "inclined to be thinner" in this last sentence?

At the end of his interesting paper, Dr. Wilmarth calls attention "to the comparatively large number of cases of actual cerebral disease, in contrast with the relatively small number where imperfect development seems the causative agent of the mental defect. With this fact, we see a corresponding improbability of a large majority of these cases ever attaining a full mental development. That a large majority of them can be greatly improved, we have daily evidence in our schools. Children inheriting inactive brain from parents below the usual average of intelligence, without history of infantile disease or epilepsy, seem the most promising of general and permanent improvement. The brain diseases of infancy, on the other hand, are peculiarly destructive, and not only leave a permanent injury to the brain, preventing its growth and development, but are liable, from the irritation they leave, to kindle the epileptic habit with its destructive effects."

THE CHEMICAL IRRITABILITY OF LEUCOCYTES, AND ITS RELATION TO INFLAMMATION AND SUPPURATION.*

SINCE the works of Metschnikoff and Ribbert on the emigration of leucocytes, and their massing together at foci of infection, these processes have attracted the keenest attention on the part of bacteriologists. What impels the leucocytes to take the right direction, viz., to the point of danger? The answer has been made by Leber that this is due to an attracting chemical irritation (impulse), that we have before us a "chemotactic action." This action was first proved by Pfeffer to exist, in certain low vegetable organisms endowed with locomotive power—spores of various bacteria, flagellata, and volvocineæ. The same property was further studied by Stahl and Stanger in the plasmodes of myxomycetæ and the zoospores of the saprolegniaceæ. All these organisms collect where the inviting material is. There is also a converse movement away from injurious substances, called negative chromotaxis by Pfeffer.

The leucocytes of the higher animals show an analogous behaviour, as shown by Leber, Massart, and Bordet; also by Gabritchevski, directed by Metschnikoff. The mere insertion of a capillary tube closed at one end into the dorsal lymph-sac of a frog *s.q.* does not cause any great accumulation of leucocytes in the tube in the presence of an indifferent fluid, *i.e.* the "tactile" attraction of the tube is but slight, compared with that of some chemical substances. If the frogs are chloroformed, there is no accumulation at all, and experiments with strong saline solutions have shown that the accumulation is not due to diffusion currents. We must therefore assume that an independent movement occurs, caused by chemotaxis.

Bacterial cultures strongly attract leucocytes. To what chemical substances is this due? The decomposition-products are usually assigned as the cause, but the author found, at least in the cases he had under his own eyes, that the albumen-stuffs of the bacteria were the cause. Pneumobacillus-proteïn showed a strong chemotactic action. It was obtained from potato-cultures of Friedländer's bacillus by digestion of the removed bacterial mass in weak potash-solution (0·5 p. c.) and precipitation by a dilute acid. It is very striking that after such treatment the proteïn should retain its attraction for leucocytes. Various other proteïns have now been obtained; one of the easiest is B. pyocyaneus. The proteïn obtained amounted to 19·3 per cent. of (dry) bacteria. The staphylococcus p. aureus, typhoid bacillus, B. subtilis, B. acidi lactici, and the red potato-bacillus all yielded sufficient proteïns for experiment, and all strongly attracted leucocytes, when inserted aseptically in closed capillary tubes beneath the skin of a rabbit, one end of the tube being afterwards broken *in situ*. Gabritchevsky found that all such proteïns showed chemotaxis except one, viz., the bacillus of fowl-cholera, when the cultures were recent, *i.e.*, only twenty-four hours old. The proteïn from such repelled leucocytes (negative chemotaxis), while that from older cultures behaved like other proteïns. Probably, in the former case, no involution, no decline in force, no excretion from the cell-contents has occurred; hence the repelling or paralysing effects predominate, this bacillus being very virulent. Of course, in these experiments, the pus formed must be carefully examined for any living germs, both microscopically and by cultures. It must be perfectly free from all such.

As the next step, proof was obtained that the so-called products of decomposition of bacterial cells may be absolutely discarded as attracting agents of leucocytes. Massart and Bordin have already examined kreatin, kreatinin, and atlantoin; the author tested butyric and valerianic acids, trimethylamin, ammonia, leucin, tyrosin, glycocoll hydrochlorate, urea, urate of ammonia, and skatol. All these gave results which were mostly negative, only glycocoll and leucin attracted more leucocytes than an indifferent solution ((0·7 p. c. Na cl), but even this result was far behind that of the proteïns.

The *vegetable caseins* were examined similarly, and they were found to attract leucocytes strongly. This is extremely important. Bacterial cultures are not the specific excitants of leucocytes, and again, leucocytes are not the combatants of infective agents exclusively. Their *rôle* in the organisms is a wider one, and numerous processes of absorption depend upon them, as surgeons have long known. Unaltered caseïns exist in seeds, and wheat-meal was found to have a similar attractive action with glutin caseïn, prepared like the proteïns. An indifferent solid substance, such as sterilized infusorial earth, had no such effect, though doubtless a very slight "tactile" action

* By Dr. BUCHNER. (*Berliner klin. Wochensch.* Nov. 24, 1890.)

occurs. Starch did not attract leucocytes, nor did sodium phosphate. The attraction therefore resided in the caseïn of the gluten.

The author now proceeds to the action upon leucocytes of the "*conversion-products*" *of animal tissues.* We know that leucocytes act in processes of absorption not only pathologically but physiologically. In the absorption of the tail of the tadpole, *e.g.*, the leucocytes act essentially as phagocytes, as Metschnikoff shows. Loos has recently controverted this, but he allows a rich massing of leucocytes at the sites of such reductions, evidently attracted there by the products of the change. Grubler's albumen-peptone was first examined, as to this point, and it did not attract leucocytes; but gelatine was found to be strongly attractive. Fresh gelatine, made from freshly decalcined bones, did the same. Alkali-albuminates were then prepared from various tissues, and they all strongly attracted leucocytes. It is to be understood that they were not chemically pure substances. Those from blood and fibrin had a moderate action, those from the white and yellow of eggs respectively had no action. Hemialbumose acted strongly, thus contrasting with peptone. Other derivates, *e.g.*, leucin, tyrosin, etc., have been already mentioned. Thus it is not the final members of the oxydation-series that attract leucocytes, but the earliest.

A general leucocytosis has been found (von Limbeck and others) to occur in various inflammations attended with fever; hence it became desirable to know whether the above substances which attract leucocytes could cause an increase of the colourless elements of the blood. Large quantities of such substances injected into a vein in the rabbit had this effect, while the injection of a sterile salt-solution had no result. By daily injection of proteïn the proportion of white to red corpuscles, originally 1 : 318, was lowered to 1 : 38 in four days. Further doses did not increase this effect. The alteration affected the white cells exclusively; the increase was about sevenfold; and their grouping together in masses of from 10, and even 20, indicated their multiplication. Gluten-caseïn had a similar effect, but in less degree, the increase being about threefold. Alkaline albuminate behaved like the last-named. The normal leucocytosis accompanying digestion must here be remembered.

Finally, the author considers the relations of leucocytal attraction to *inflammation* and *suppuration.* Do other chemical material, besides bacterial proteïns, participate in inflammatory leucocytosis? Cadaverin was not at disposal; it is considered pyogenous, but such a poison can hardly attract leucocytes. Trimethylamin caused suppuration, though it does not directly affect the leucocytes. (Cadaverin is pentamethyline diamine.) Perhaps the large quantity injected might afford some derivative which might have this effect. This may also explain the suppuration free from bacteria, which follows injection of turpentine in the dog, of calomel, mercury, etc., in the rabbit. What is the essential cause of suppuration, and how does it differ from simple absorption, in which leucocytes also play their part? In the former case the leucocytes do not regress into the tissues, but remain and undergo fatty degeneration. Lastly, we reach the important question of the relation of this leucocytal attraction to the process of inflammation of the fixed tissue-elements. Do chemotactic stuffs cause only leucocytosis, or always inflammation as well? Can these two processes be separated? The answer is, "No, it is impossible to separate them." Experiments on animals being here unsuitable, Drs. W. Meyer and L. Raab afforded themselves for experimental injections, beginning with very weak doses, and under strict aseptic precautions. The proteïn of bacillus pyocyaneus into the fore-arm quickly caused pain and erysipelatous inflammation, lasting some days; the lymphatics, moreover, showed like red cords. The fixed elements of the tissues certainly participated in this typical inflammation, which was attended by the classical signs *rubor*, *calor*, and *dolor*. Glutein caseïn had a similar effect, but in much less degree, with the quantity used. Its subcutaneous action is simply astounding when we think how much of it we eat daily in bread.

These results may have a practical importance. In 1877 the author asserted that inflammation was one of the most powerful reactive measures of the organism against bacterial infection, and in his attempts to restrict anthrax by sterilized bacterial injections, a year ago, the results obtained could only be ascribed to the inflammation and fever thus artificially induced. The most various infections, acute and chronic, are affected by these considerations, and our hopes are raised very high by the fact that the acute intellect of Koch has enabled us to take a treatment of one such infection, viz., tuberculosis.

ON THE VIRUS OF TETANUS.*

THE alkaloid obtained by Brieger (in his early experiments) from cultures of tetanus bacilli are:—(1) *tetanin*, which causes in mice, rigidity, tetanic cramps, trismus, and death; (2) *tetanoxin*, causing speedy convulsions and death by paralysis; (3) *toxin-chlorhydride*, causing typical tetanic attacks with increased secretion of tears and saliva; (4) *spasmotoxin*, which causes clonic and tonic convulsions. Afterwards, Brieger and Fraenkel came to the conclusion that the above poisons could not account for the peculiar virulence of the tetanus-virus, as comparatively large doses were required to cause death, and that this virus, in the case of all pathogeine bacteria, was not represented by any alkaloidal base, but by a special albumose. They showed the presence of such a body in pure cultures of tetanus-bacilli. This general method consists in repeated precipitations with acidified absolute alcohol, the ppt. being dissolved each time in aq. dest., followed by dialysis to separate out the salts. This toxialbumose, unlike the above-mentioned alkaloids, when given in a weak dose, only acts after four days, the symptoms being convulsions followed by paralysis and death, whereas the alkaloids act almost immediately. It belongs to the same group as the diphtheritic virus, and, like the latter, is somewhat soluble in water, in contrast with the toxi-albumoses of cholera and typhoid (abd.), and that of the staphylococcus p. aur. which are scarcely or not at all soluble. Weyl and Kitasato also obtained an albuminoid body from cultures of tetanus bacilli. This toxialbumose is extremely virulent, a few milligrammes sufficing to produce, after a certain time, genuine tetanus.

It has been assumed for some time that the fluidification of gelatine, caused by some bacteria, must depend on the action of some peptic ferment, exerted by the bacilli. Bitter has proved this as regards the spirillus of A. cholera. Fernie has isolated the fer-

* By PROF. TIZZONI and DR. CATTANI, Bologna. ("Archiv. fur exp. Path. u. Pharmacol," Bd. 27, H. vi., 1890.)

ments produced by the same spirillus, by the spirillus (comma bacillus) of Finkler and Prior, and by micrococcus prodigiosus. The method of the author's was as follows :—Pure cultures of tetanus bacilli were developed in a hydrogen atmosphere, glass bulbs holding gelatine or meat-broth, and sugar, at a temperature of 35° C. The development of gas was so great that sometimes the (sealed) bulb burst, but generally this process subsided in a few days, and the bacilli fell to the bottom in a thick layer. These cultures, which had previously been tested by inoculations, were then filtered through a sterilized Chamberland filter into sterilized vessels, and evaporated down to half their bulk in vacuo at 40° C. To be certain of the absence of bacilli portions were transferred to gelatine, and when a negative result was established, the experiments began. The bacilli by successive transferences on gelatine had been found to preserve their virulence, but with meat-broth they became so attenuated as to lose their power of producing tetanus after the third generation. The filtrates above described behaved similarly. The gelatine filtrate of the third or fourth generation of bacilli was as virulent as the bacillary culture from which it was derived, the broth-filtrate was correspondingly inert. This property marks an important difference between the bacillus of the author's and that of Kitasato. To repeat, tetanus-cultures in meat-broth were without virulence and toxicity; now it is from such cultures that Brieger and Fraenkel have separated the toxic albumen (albumose) of tetanus. The tetanus induced by the author's filtered gelatine cultures was exactly like that caused by injections of the bacilli themselves. One drop, even the tenth of a drop, was sufficient to cause death in a rabbit in three days, larger doses caused death towards the end of the first day. The fluid thus possesses extraordinary virulence. If all the nerves to a limb were cut, muscular rigidity was absent or suspended, according as the general symptoms had commenced or not. The rectal temperature remained local so long as the tetanic symptoms were localized, but when they became general it gradually sunk till below 35° C.; a rise was never observed. The autopsy revealed nothing except great distension of the bladder. Intra-venous and subcutaneous injections acted alike in the main, although certain differences were observed; injection into the sciatic nerve, or beneath the dura mater, also had the same effect. Introduced into the stomach, the virus had no effect.

The authors next examined how these filtered gelatine cultures behaved towards acids, alkalies, and heat. The passage of CO_2 for five hours made no difference. The organic acids in small quantities made no difference, and in larger quantity only slightly delayed the onset of tetanus. As to mineral acids, the toxicity was not affected by a very small quantity of HCl., if the acid was added to the culture only a short time (half-an-hour) before injection. If the time was longer, or if the acid was stronger, the toxicity was weakened or abolished. Alkalies had no influence, nor the neutral salts; this was perfectly established as regards ammonium sulphate. A high temperature, 19·100° C. for one hour, rendered the culture quite harmless. A gradational change was established for lower temperatures, *e.g.*, that of 60° C. for half-an-hour caused the culture to excite only slight local symptoms in the limb operated on, but with the same temperature for only a quarter-of-an-hour the culture was so altered as to cause great emaciation and decided tetanic symptoms, still localized. If the time was only five minutes, general tetanus was induced (with pleurosthotonus), lasting over a month, but not fatal. The exposure for one hour to a temperature of 50° C. left the toxicity quite as great as before. This shows us that experiments made with cultures that have been sterilized by heat, even if only moderate, lose much of their value. Heat has a powerful influence, even more on derivative fluids from bacilli than on the bacilli themselves. Dialysis, conducted with every precaution against impurity, made no difference in the action of the filtered culture. Threads of albumen, also fibrin threads, were next introduced into the fluid, to ascertain the presence of a peptic ferment. Repeated experiments enable the authors to positively assert that filtered tetanus cultures in gelatine contain a ferment able to dissolve gelatine, fibrin, and to a slight extent even coagulated albumen. No diastatic ferment (or invertin) was present. The peptic ferment found in the gelatine was absent from the (innocuous) meat-broth cultures.

The toxic substance was examined in the dry form by Brieger's and Fraenkel's method (*v. supra*). The substance obtained after six or seven precipitations was quite inert, and even that from the first precipitation gave no results; this was contrary to what the above observers found. The fluid left behind was equally inert when injected into animals; the toxic substance was therefore rendered without effect by absolute alcohol. Another method was therefore adopted:—Dialysis, with every precaution, was employed for some days till the fluid outside the dialysers shewed traces of organic substances and salts. The dialysed filtrate, which had an acid reaction, was then evaporated at 40° C. in vacuo, and dried over sulphuric acid; an amorphous lustrous substance was obtained, of brownish yellow colour. A few milligrammes of this dissolved in 1 ccm. aq. dest. caused characteristic tetanus when injected into animals. Encouraged by this, the authors tried precipitation by am. sulphate, following Mosso, also Brieger and Fraenkel. After re-solution in water and dialysis for some days, evaporation was conducted as before, and the resulting substance preserved the full toxicity. A rabbit weighing nearly 2 kilo. (nearly 4½ lb.) had 4 mgrm. injected into the leg. Next day, the limb was stiff and lagged behind. Early next day, the animal lay on the ground with all the signs of tetanus—legs stretched out, stiff, the tail erect, opisthotonus and convulsions on the slightest noise. Death during the morning; examination of the body gave no results; bladder distended. The chemical relations of this substance (before precipitation) were in general the same as those obtained by Brieger and Fraenkel from the substance they derived from the diphtheritic virus. The reactions prove that it is an albuminoid substance. Extraction by glycerine yielded a body which caused only local symptoms in animals, though of considerable intensity The toxic substance obtained by the authors differs from that of Brieger and Fraenkel, thus:—(1) The former was obtained only from gelatine cultures, the latter from meat-broth cultures (the authors found the latter quite inert); (2) the former had its virulence destroyed by absolute alcohol, the latter preseved its virulence after numerous precipitations; (3) the former when prepared by am. sulphate began to cause tetanus eight or ten hours after injection, the latter (also that of Weyl and Kitasato) required three or four days.

The authors think this toxic substance is an enzyme or soluble ferment, and this for three reasons. Firstly, it is not formed in those nutrients where the bacillus produces no peptic ferment. Even in gelatine, if weakly acidified (organic acids), there is, indeed, a

moderate development of the bacillus, but no fluidification occurs, and the virulence is considerably weakened, causing only local effects. Secondly, acids, also heat, make both the virus and the peptic ferment, which are contained in it, inert. Thirdly, it is soluble in glycerine, it is altered by mineral acids, and (especially) it is operative in minimal doses (1/10th drop).

Finally, experiments were made to obtain protective inoculations against tetanus. Animals who had survived tetanus (local), all succumbed when inoculated in the usual way; the idea of conferring partial tetanus was therefore abandoned. "Chemical vaccinations" of various kinds were made, but all without effect.

THE ACTION OF GROVES OF TREES UPON MICRO-ORGANISMS CARRIED BY THE WIND.*

It is quite an old observation that a grove of trees has a certain effect in checking the diffusion of malaria. The celebrated physician Lancisi, who lived in the middle of the seventeenth century, used this as an argument against the proposal of Clement XI. to cut down the woods of the Cisterna and Sermoneta, which he pointed out would expose the city to the malaria of the Agro Romano. Lancisi's two speeches on this subject have been published by Professor Scalzi. In India this observation has been often acted upon by interposing belts of trees between our cantonments and malarious lands. But while the fact was generally admitted, there was a diversity of opinion as to how this immunity from fevers was obtained. Some thought it was simply owing to the diversion of currents of air, others attributed it to the action of the emanation of the trees; and it was observed that pines and other trees giving off terebinthinate exhalations were found to be most effective for protecting a station. In the present paper A. Serafini and J. Arata have taken this question into consideration. Assuming that the cause of malarial fever is a microbe which can be borne by the wind, they have prosecuted a series of experiments to show how a belt of trees might check and interrupt small organisms, which would be borne steadily along by an uninterrupted current of air. Then, even supposing some of the germs got through, their number would be so much thinned by the filtering power of the trunks, branches, and foliage, that their morbific power would be much diminished. These Italian observers took for their models the researches of Miguel, in the Observatory of Montsouris, and those of Hesse, in the park of Schwarzenberg, upon the quantity of micro-organisms contained in the air. Their own observations were made in the Villa Medici, situated on an eminence in the south end of Rome, within the walls. The grove covers a space of about 7,000 square metres. The air was examined as it entered the wood, and at points between 30 and 40 mètres within the trees. They used Strauss's method to measure the quantity of minute organisms in the air, used for 16·5 litres of air, which were passed through the gelatine in forty minutes. In observing the colonies of organisms on the plate of glass, they divided them into three classes, fungi, bacteria which dissolved the gelatine, and bacteria which did not dissolve the gelatine. At the same time careful observations were made of the temperature, humidity of the air, direction of the wind, and other meteorological conditions. The observations occupied forty days, from the 6th May to 8th July, 1890. The results are recorded in four pages of carefully prepared tables.

They found that the meteorological conditions had very little influence upon the number of minute organisms. The results of the examination of the air were not constant. In one day the proportion of microbes was found to be greater in all the three divisions within the wood than at its entrance; but in the other thirty-nine days there was a greater number in one or two of the divisions, where the wind entered, than within the grove. Twenty-eight times there were more bacteria which did not dissolve the gelatine, and twenty-three times dissolving, and twenty-five times there were more fungi within than without. In the remaining cases the number observed was generally about equal within and without the grove. Thus the authors think they have a right to infer that a wood exercises upon microbes transported by the wind a species of filtering action. The minute organisms fall to the ground owing to the interruption of air-currents, or they are arrested by the bushes and trees, and when they once fall their further rise is hindered by the moisture of the shaded soil. [This is a reasonable conclusion, only I am not willing yet to abandon all belief that some of the effects may be due to the exhalations of the trees. It has been observed that trees planted on the side of a steep hill may have the effect of impeding the spread of malaria, and I know of at least one occasion where increased frequency of intermittent fever followed the clearing of trees from the hill-side.—*Rep.*]

* "Annali dell' Instituto d'Igiene Sperimentale dell' Universita di Roma," 1890.

ON THE MICROBES OF MALARIAL FEVER.*

Drs. A. Celli and E. Marchiafava complain that their observations upon the parasite of malarial fever have been utilized by Dr. P. Canalis without due acknowledgment. It appears from the opposing columns which they print that these different observers have reached similar conclusions. Without entering here upon the claim of priority, it may be held that their descriptions confirm one another, which is an advantage, as there is far from being a complete agreement between the microscopists who within the last few years have published their studies on the blood of those affected with intermittent fevers. The paper of Celli and Marchiafava enables us to obtain a view of what has been recently done on this important object of inquiry. The etiology and symptoms of malarial fever are so suggestive of the presence of some minute organism in the system that even pathologists who distrust the descriptions already given of parasites found in the blood of those affected, still profess to be ready to believe that the course of such fevers is due to the degeneration of the red globules following upon some parasites not yet demonstrated. On the other hand, these two Italian observers hold that the corpuscles already described resemble real organisms found in other habitats. They invoke the authority of Grassi, the Italian naturalist, who has been able to follow the nucleus in its growth and multiplication, which he affirms takes place through a gymnospore. Feletti and Grassi arrange the parasite

(*"Annali dell' Instituto d'Igiene Sperimentate dell' Universita de Roma," Rome, 1890.)

of malaria amongst the Sarcodini (Rizopodi), and give it the rank of a distinct genus (Hæmoameba and Laveriana). Other observers treat these two last as two stages, the amœboid and the falciform in the changing life of the parasite.

Celli and Marchiafava hold that the microbe first appears as a nucleus with pigments within the red corpuscles. It quickly takes the form of an amœboid body of a semi-lunar form, which, in the end, takes a whip-shaped extremity. Canalis describes the sporulation of this body, which Celli and Marchiafava have not observed. Laveran, on the other hand, describes the malarial parasite as a free pigmented cyst which attaches itself to the red globules of the blood, into which it sends its movable filaments. He says that these parasitical bodies are generally pigmented, while Marchiafava and Celli describe a non-pigmented variety as being very common.

They observe that there are two forms of malarial fevers met with at Rome, those which prevail in spring, and those which prevail in summer and autumn. The first kind is more marked in its intermittent character and of less duration. It is easily cut short by a dose of quinine, and may even pass away without any medical treatment. The autumnal variety is less distinct in its type, and more persistent. The initial rigor is wanting or not so marked; but there is violent headache and the loss of appetite remains. These fevers never disappear spontaneously, nor do they readily yield to anti-periodics. In this form the parasite is observed as a globular or semi-lunar amœboid body without the pigmentation.

Selected Papers.

Anatomy and Physiology.

HÆMOMETRIC STUDIES.

By Dr. Raum. (*Archiv. für path. u. pharmacol.* H. i. ii., Bd. 28, 1891.)

The colouring power of the blood in these experiments on animals (normal and fasting) was estimated by Heischl's hæmometer, all precautions being observed. This instrument is trustworthy for comparative observations. The following are some of the conclusions arrived at:—The colouring power of the blood in fasting rabbits is in general increased, and it appears to increase for each day of fasting, at least up to the tenth day. In the last days of life, it may exceed the normal by 30 or even 50 per cent. of the normal. During the restitution period, after each fasting, the colouring power diminishes. In fed-up rabbits, without previous fasting, the colouring power has a tendency to increase. In dogs fasting, till half their previous weight, the colouring power increased about 35 per cent. The law is therefore true for carnivora as well as for herbivora.

THE ORIGIN OF THE LIVER.

By Dr. T. W. Shore. (*Journ. of Anat. and Phys.* vol. xxv. p. 166.)

(1) The "liver" of invertebrates is not morphologically the same as that of vertebrates. (2) The liver of invertebrates is the gland of the mid-gut, and has, when present, the same nature in all. (3) It is composed in invertebrates of cæcal pouches, lined by secreting epithelium, surrounded by connective tissue-membranes. (4) In the vertebrata, the liver is made up of a network of tubules, interlacing with a network of blood-capillaries, and unprovided with any basement membrane separating the blood-capillaries from the liver-cells. (5) The invertebrate's "liver" is essentially a gland, secreting a digestive fluid containing ferments. (6) The vertebrate's liver is primarily an organ of nutrition for the embryo; and has been adapted to perform similar functions in the adult. (7) In its evolution the vertebrate's liver is intimately associated with the absorption of the food-yolk of the egg. (8) The liver of the vertebrate has not been evolved from the "gland of the mid-gut" of any invertebrate. (9) The pancreas of the vertebrate is somewhat similar in structures and functions to the "gland of the mid-gut" of invertebrates; although the question of whether these two organs are morphologically equivalent is an open one.

THE MECHANISM OF SECRETION.

By Dr. A. Gehuchten. (*Anat. Anzeig.*, Jahrg. vi., s. 12.)

The epithelial glandular cells of the mid-gut of the larva of ptychoptera contaminata form excellent objects for the study of the mechanism of secretion. (2) These cells are provided with an open foundation (*plateau ouvert*), as described recently by Gilson, but this takes no part in the mechanism of secretion—it is simply a protective layer against injuries from without. (3) The products of elimination form in the cellular body as a consequence of the special activity of the cell. It is at this time that the secreting cell is specially active from the point of view of its function of secretion. The elaborated products raise the basal membrane of the plateau and cause it to project into the intestinal cavity. These projecting vesicles become free, either by strangulation or by the formation of a new membrane at the limit of the cytoplasm. This fall of vesicles, engorged with products of secretion into the intestinal cavity, constitutes excretion. The cell may then enter into a state of repose or commence a new secretion. (4) An epithelial cell may secrete and excrete several times without destroying itself. (5) The cell destroys itself by the loss of its nucleus. (6) The destroyed cells are replaced by new cells, which always exist at the base of the secreting cells. (7) The nucleus takes no active part in the phenomena.

POLYMASTISM.

By Dr. W. R. Williams. (*Journ. of Anat. and Phys.* vol. xxv. p. 222.)

This interesting and careful paper contains several points worthy of reproduction. The author, after a careful consideration of all the facts known to him relative to the distribution of mammæ in human beings and animals under normal and abnormal conditions, finds it impossible to come to any other conclusion than that the mammæ were originally segmental organs—a pair being developed on the ventral aspect of each somite. He regards the full number as having been seven pairs, which were arranged thus: first pair, axillary; second pair, middle of anterior

axillary border; third pair, just above and slightly external to the normal female bosom; fourth pair, the normal mammæ; fifth pair, just below and slightly internal to the normal female bosom (more than three-fourths of all instances of supernumerary mammary structures have been found in this position); sixth pair, below and slightly internal to the last pair, near the costal margin; seventh pair, below and slightly internal to the preceding, on the upper part of the abdomen. As regards the so-called mammæ erraticæ, the author's opinion is that they are due to reversion to ancestral arrangements much more ancient than those reproduced in ordinary cases of polymastia. There is no evidence, he states, "that such structures can arise just anywhere, as 'sports' from ordinary sebaceous follicles; on the contrary, I have shown that they only arise in positions which correspond with those occupied normally by the glands of polymastic animals. My investigations prove that highly specialised structures like the mammary gland, with its nipple and appendages, never develope suddenly in any human being, except in response to ancestral hereditary influence." In connection with this statement it becomes necessary to explain the occurrence of supernumerary mammæ in ovarian dermoid cysts. These cases the author refers to the class of parasitic fœtuses *per inclusionem*, in which only the mammæ have survived.

THE THYREO-GLOSSAL DUCT.

By Dr. A. A. Kanthack. (*Jour. of Anat. and Phys.* vol. xxv. 155.)

In 100 adults a ductus lingualis was never found, in many cases not even a foramen cæcum. Whenever the latter was prolonged backwards any distance, it ran as a blind canal near the surface. A tubular lumen in the lobus pyramidalis was not observed. In fœtal and infantile tongues, it was proved that a cornu medium and a foramen cæcum need not and do not go hand in hand. Again, a tubular lumen was never found in the lobus pyramidalis, which always consisted of muscular or thyreoid gland-tissue. The foramen cæcum was small, or absent, in a great number of cases. The longest canal measured 5 mm. (in a new-born child), and ran close below the surface. In no case could the canal be traced to the hyoid bone, though in all these cases the microscope was employed. The author is of opinion that there is no intrinsic connection between the development of the tongue and the thyroid gland. The latter is developed from an outgrowth from the pharynx in the neighbourhood of the second bronchial arch. Soon after two nodules appear in the middle line in the same region. These two nodules, which eventually become the base of the tongue, soon blend and then form a kind of lid to the thyreoid outgrowth. Finally, these fused nodules join with the tuberculum impar, and at the latter point of junction the foramen cæcum is found. The latter is therefore more ventrally situated than the thyreoid outgrowth, and can only so far be said to have any connection with the thyreoid duct, as both are derived from the pharyngeal wall. A communication between the two can only exist if the two nodules do not join. In the meantime the nucleus for the hyoid bone appears and forms, so to say, a partition between the two. The author believes that most of the cases of tumours in the base of the tongue described are tubular glandular adenomata, derived from the mucous glands situated there, and that if thyreoid gland tissue should be found, it is developed from the glandulæ hyoideæ, and has nothing to do with the foramen cæcum and its blind cul-de-sac-like prolongation. He agrees with Kostanecki and Mielecki that central fistulæ opening at the base of the tongue are due to a deficient closure of the sinus cervicalis, and to a persistence of the second inner bronchial groove which has torn through into the sinus cervicalis.

THE INNERVATION OF THE THENAR EMINENCE.

By Dr. Lejars. (*Bull. de la Soc. Anat. de Paris*, 1890, p. 433.)

The fact that anæsthesia, and even motor paralysis, do not always follow the lines laid down by anatomical writers, is explained by anomalies often little known of the peripheral nervous system. The author in this paper deals with that part of the question which relates to the thenar eminence. According to all authors, this portion of the hand obtains its sensation from the radial and median nerves. Sappey, for example, states that on the thenar eminence there is only seen a long terminal thread of the musculo-cutaneous, which runs its entire length, and divisions of the median (palmar branch) which expand over its inner aspect. As to the anterior branch of the radial, it appears to be exclusively destined to furnish collateral branches to the thumb and to the digits, and the external dorsal collateral branch of the thumb traverses the whole length of the first metacarpal bone on the border of the thenar region, but without giving a single branch to it. According to the author, this is incorrect. If the anterior branch of the radial is sought where it crosses the tendons of the anatomical snuff-box, and followed to its termination, it will be found that at the level of the carpo-metacarpal articulation it divides into three branches: the most internal is the common trunk of the dorsal internal collateral branch of the thumb and the accessory collateral of the index; the middle is the dorsal external collateral of the thumb; the third, as yet undescribed, is destined entirely for the thenar eminence. The author names it the thenar branch of the radial. It often arises from the dorsal external collateral branch of the thumb near the origin. It can be seen descending obliquely along the external border of the thenar eminence and terminating in fine twigs in front of the metacarpo-phalangeal articulation. From its internal border a series of branches are given off, which cross the eminence obliquely and supply nearly its inferior three-quarters, which thus receives its innervation almost exclusively from the radial. As regards the question of the retention of the power of abduction by the thumb after injuries of the median nerve, the author states that it is easy to demonstrate that normally the short abductor receives several branches from the radial coming to it by the thenar branch. The muscular branch also supplies the antero-external part of the radio-carpal articulation. The author maintains that the short abductor has a double-nerve supply, but that the greater part of it is obtained from the radial.

Professor Victor Horsley has resigned the appointment as Professor-Superintendent of the Brown Institute, which he has held for several years past.

Surgery.

GANGRENE OF THE LEG FOLLOWING ERYSIPELAS OF THE FACE.

By Dr. M. Schmidt. (*Rev. de Chir.*, Dec., 1890.)

The patient was admitted into a military hospital suffering from ordinary erysipelas of the face, which underwent resolution on the seventh day. A few days after convalescence had been established, he suddenly became feverish, and great pain was felt in the submaxillary region. This latter symptom developed into a phlegmonous abscess, which was incised. A month afterwards pain suddenly seized him in the right leg, and examination revealed the existence of obliteration of the popliteal artery, which caused gangrene of the limb. Amputation of the limb was performed opposite the tuberosity of the tibia. At the time of the operation the patient was found to be suffering from infective endocarditis, and afterwards right broncho-pneumonia, then left pleuro-pneumonia, in connection with which a large quantity of purulent matter was discharged spontaneously by vomiting. Despite all his troubles the patient survived, and ultimately made a good recovery.

GUN-SHOT WOUND OF THE ABDOMEN; SUPPURATIVE PERITONITIS; LAPAROTOMY SIXTY-SIX HOURS AFTER THE ACCIDENT.

By M. Fontain, Toulon. (*Rev. de Chir.*, Dec., 1890.)

The author, in describing this case, says the ball was of seven millimètres in size, and had struck the right flank, about the middle of a line passing from the anterior superior spine of the ilium and the umbilicus. He saw the patient two days after the accident. On making an incision through the abdominal walls he came upon some fœcal pus in which was found a fragment of a tænia. The pus filled the right flank and extended into the pelvic cavity. The ascending colon was perforated at one point. The author carefully washed out the peritoneal cavity, inserted six Lembert's sutures at the seat of perforation, and fixed this portion of the intestine to the abdominal wall. The sutured intestine did not unite; an artificial anus resulted, and the patient made a good recovery. An abscess in the iliac fossa was subsequently opened, and this demonstrated that the ball was embedded in the iliac bone.

THE SURGICAL TREATMENT OF HALLUCINATIONS.

By Dr. Burckhardt. (*Gazzetta degli Ospitali*, No. 92)

Dr. Burckhardt has subjected six cases of insanity to operative treatment. Twice he made it his object to intersect the paths of association which, according to him, transmit the pathological impressions coming from certain sensory parts and certain ideogenic parts of the brain. To effect this, he removed portions of the frontal and parietal lobes before and behind the ascending convolutions. In one of these cases the result was very satisfactory; in the other, which is still under treatment, the improvement was only partial. In the remaining four cases there were hallucinations more or less acute, and the indication was to suppress and to reduce the hallucinations of sound more or less. Burckhardt believes that verbal hallucinations can only be produced in a brain in which the logogenetic paths are intact; for the centres, through whose injury sensory and motor aphasia are produced, are indispensable to all genesis of verbal hallucinations. To cure the hallucinations he attacked these centres, and excised parts of the front temporal and of the third frontal, on the left side. The result was satisfactory, though it may be that the improvement will not be permanent. In case of relapse Burckhardt proposes to return to the charge. The fourth patient died of vascular paralysis six days after the operation, which no doubt was the cause of his death. These results Burckhardt considers to be encouraging; he has continued to pursue this line of treatment for two years.

APPENDICITIS WITH SUPPURATIVE PYLEPHLEBITIS.

By Dr. H. T. Machell. (*Canadian Practitioner*, Dec., 1890.)

The case here recorded presented many points to interest, the actual disease having constantly escaped recognition during life; and even at the time when exploration of the abdomen was resorted to with a view to ascertaining its nature, the full character of the mischief could not be made out. The patient, a man, aged thirty-three, had suffered from periodical chills and rigors and slight jaundice, and the diagnosis of typhomalaria seemed the nearest approach to naming the condition. Treatment based on this conclusion was, however, ineffectual to restore a healthy state of things, and aspiration over the unmistakeably enlarged liver resulted in the escape of blood only. After making an incision over and exposing the liver, and failing to find any accumulation of pus, the region of the right iliac fossa was explored, and the appendix found to be the seat of an abscess with exceedingly thick walls, from which, on opening, feculent pus was discharged. The sac was flushed with hot water, and a drainage-tube inserted; but death occurred some twenty-four hours subsequent to the operation. *Post-mortem.*—The liver was found nearly twice its proper size; the intestines distended and slightly glued together on the right side. The portal veins and their terminations were the seat of well-marked pylephlebitis, being filled with pus; only a few abscesses, as large as peas, being found in the liver. The mesentric veins also were enlarged and pus-laden, and could be traced towards the pelvis for some distance. The spleen was only very slightly enlarged. The free end of the appendix, situated in the centre of the abscess cavity, was in a semi-gangrenous condition, and there were many indications to suggest that the appendicitis was of old standing. During life, however, no symptoms of such a condition had been manifest, the patient having freely indulged in rowing exercise, and attended to business to within a few days of his decease. There was neither pain, tenderness, nor externally perceptible tumour to suggest the real seat of mischief; and throughout the illness the symptoms all pointed more to malaria than to any other affection, the residence of the patient in the neighbourhood of a lagoon lending strength to this view of the attack.

THE PREVENTION OF SHOCK.

By Dr. Stephen Smith. (*The Medical News*, 1890.)

The method by which, during more than ten years, Dr. Smith has been successful in preventing the supervention of shock in cases in which he has operated, is to bring the patient to a state of semi-intoxication by administration of stimulants continuously for some time before the operation, and in the case of persons unaccustomed to alcohol, one ounce of whiskey in half-a-pint of hot milk is given at intervals of two hours for six or eight hours; but, if necessary, to secure the requisite degree of inebriety, the same dose is repeated hourly after the first two or three have been taken. For patients who are accustomed to indulgence in intoxicants, double the amount of stimulant, or even more, may be required. It is argued that the spirit induces a feeling of indifference in even timid persons who have anticipated the ordeal of operation with considerable dread; and the useful effect of the easily assimilated food taken with the whiskey in the shape of hot milk must be fully apparent. Dr. Smith describes the appearance of the patient, when adequately prepared by his method as presenting suffused eyes, flushed skin, slow full pulse, and complete indifference to the operation. He should be warmly covered, except over the site of operation, and it is directed that the administration of the anæsthetic should be suspended as frequently as possible. It is said to be remarkable how speedily a person, quite or partially intoxicated in the manner described, is brought under the influence of chloroform or other anæsthetic. Moreover, there is an almost entire absence of struggle and the amount of anæsthetic required is exceedingly small. The pulse remains normal, breathing is quiet and regular, and the skin warm and red, and not unduly moist. Subsequent to the operation the condition remains very favourable, the pulse continuing full, respiration undisturbed, and the mental state one of hopefulness or indifference. Primary and secondary shock are both avoided by the adoption of the plan. Dr. Smith further advises the application of water heated to 150° F. to operation-wounds, oozing of blood being thereby immediately and permanently arrested by it. As a result of adopting this method of preparation for operations, the author of the plan declares, that throughout an experience extending over ten years he has never been troubled by shock as a complication.

THE INDICATIONS FOR TREPHINING IN EPILEPSY.

By Dr. J. C. Minor. (*Boston Medical and Surgical Journal*, Dec. 18, 1890.)

The author states in his paper that by the administration of drugs and the careful regulation of diet, exercise, and general hygienic measures, we might hope to cure about one-half of all cases of epilepsy, which experience had shown was not an affection that disappears spontaneously. It was among the other half that surgical procedure had its field. While, however, all epileptics were subjected to medical treatment, only a small proportion of those unrelieved by such treatment came under observation of the surgeon. Of these a majority were rejected, as not appropriate subjects for operation; but of those who were operated on, more than one-half were cured, over one-sixth relieved, about twenty per cent. died, and about three per cent. were neither better nor worse for the operation. Within the last ten years the mortality had been largely decreased by the application of antiseptics to brain surgery, and the favourable results had increased in equal proportion. The author concluded as follows:—There are three main indications for trephining in epilepsy that hold good, provided medical treatment or the removal of peripheral irritation by three other methods fails to cure or relieve. (1) In the distinctly traumatic epilepsies following depressed fractures and other lesions of the scull. (2) In the traumatic epilepsies in which the only visible lesion consists of a scalp-wound, which is sensitive or tender, and upon which pressure develops either an aura-vertigo or an epileptic seizure. (3) In all epilepsies, whether traumatic or not, in which the character and development of the seizures is such as to indicate a definite motor area as the seat of a cortical lesion. The contra-indications, on the other hand, were those which might be applied to cases of such long duration as to lead to marked mental degradation, to cases in which from the first the seizures had been general and sudden, to cases where the general symptoms indicated an extensive cerebral degeneration, and to cases where, in addition to any or all of these conditions, there was nothing in the symptoms or history of the case to indicate a definite or circumscribed lesion of the cortex that could be reached and removed.

WOUND OF THE KIDNEY WITH A KNIFE; NEPHRECTOMY.

By M. Hirmisson. (*La Semaine Med.*, Dec. 31, 1890.)

This case was read at a recent meeting of the Société de Chirurgie at Paris. The patient, a sailor, received a stab in the left lumbar region with a knife, which inflicted a wound of three centimètres in length. The sufferer was carried to the nearest hospital after an interval of three hours, and when the wound had been carefully washed with antiseptic lotion, the collodion was applied and the wound closed up. For ten days the patient passed blood in his urine. Subsequently the urine contained pus and urates in large quantities, and the patient began to lose ground; the temperature rose to 40° C. Two days afterwards the temperature fell a little, and the patient passed 2,200 grammes of urine; the latter contained about 200 grammes of pus. The condition of the patient being serious, the author made an incision in the lumbar region. The cutaneous wound had united by first intention; more deeply the history came across a large collection of extremely fœtid pus, in which lay the kidney surrounded with the *débris* of gangrenous tissue. The kidney was lying somewhat high up, and with the finger it was possible to feel a small depression on its surface, which was probably the situation of the original wound. The abscess-sac was carefully cleaned out with the curette and washed thoroughly with sublimate, and antiseptic dressings were applied. The following days the sac continued to discharge freely, and the pus had a fæcal odour which was very marked; the patient was very restless, and the septic condition continuing, despite frequent antiseptic injections, nephrectomy was decided on. This was done by means of a ⊨-incision, the vertical branch of which was parallel to the lumbar spine. The patient ultimately made a good recovery. On examination of the kidney which was removed, an oblique sillon was found, resulting from the stab.

The author did not think that the infection of the wound had been caused by the knife, or that it had arisen from the bladder; on the contrary, he considered that the knife must have injured the colon, and that it was in this way that the septic matter gained access to the wound.

TWO CASES OF CHOLECYSTOTOMY FOR LITHIASIS.

By Dr. Le Dentu. (*La Semaine Med.*, Dec. 31, 1890.)

The author describes two cases of cholecystotomy, followed by extraction of a single calculus in the first case, and of multiple calculi in the second. The two cases differed from each other, in that the first the patient suffered merely from lithiasis, while the second was, in addition to the lithiasis, the victim of primary cancer of the liver. A complete cure resulted in the first case, but the second patient died a few days after the operation. The symptoms in the latter instance were those of biliary lithiasis, severe crises of pain, vomiting, icterus, pale stools. The swelling, however, in the hepatic region, and the presence at the lower margin of a hard tumour were suspicions of cancer. The autopsy shewed that death had resulted from collapse, a common termination where cancerous persons have submitted to surgical procedures for their relief. It is an expedient matter, therefore, to bear in mind that when there are reasons for supposing the presence of malignant disease of the liver, the bile ducts, or pancreas, no surgical interference should be attempted, not even an exploratory incision, which would be useless. Confirmatory of these latter views, the author related a third case, that of a patient who was suffering from chronic icterus, without pain. At the *post-mortem* examination, no surgical interference having been attempted, a small cancerous nodule of the head of the pancreas was found, and the growth had completely obliterated the common bile duct.

GUN-SHOT WOUND OF THE ABDOMEN, WITH MESENTERIC AND INTESTINAL WOUNDS.

By Dr. A. B. Miles. (*Medical News*, Dec. 27, 1890.)

The history of the case is published by Dr. A. B. Miles, New Orleans. The patient, F. H., was a young man, aged twenty-four. On September 11th last year, he was trifling with a thirty-two calibre pistol, when it went off suddenly and discharged a bullet into his abdomen midway between the umbilicus and pubes. The patient was promptly conveyed to the hospital. On arrival: *Shock* but slightly marked. Pulse, 108°. Abdominal pain complained of only. As there was little doubt but that the missile had entered the abdominal cavity, median abdominal section was performed by means of an incision five inches in length. Much blood was found in the peritoneal cavity, and numerous intestinal perforations. Examination showed that the bullet after entry had passed to the left, wounding the mesentery in three places, the small intestines in sixteen places, and had lodged in the muscles of the lumbar region. Patient for a few days previously had eaten little; thus, while tending to increase number of wounds, minimised the chance of peritonitis. The Lembert suture was used to close intestinal lesions. Prior to closing the incision the peritoneal cavity was douched with sterilized hot water. The dressings, of the usual antiseptic kind, were removed on the eighth day with the deep abdominal sutures. The superficial sutures were left in till the twelfth day. Temperature on the evening of the operation day was 94·8° F.; pulse 115. Morphine, ¼-grain, and atropine sulphate, 150th-grain were administered hypodermically. The following evening temperature rose to 102° F.; pulse, 150. Antipyrine, ten grains, was administered hypodermically. Water, half-an-ounce, at a time. All permitted by mouth till seventh day. Then teaspoonfuls of boiled milk and meat extract. On the thirteenth day light solid food was taken, but still supplemented by rectal feeding. Patient left the hospital October 18th, and has since remained in perfect health.

SUCCESSFUL CHOLECYSTOTOMY FOR IMPACTED GALL-STONES AND INTRAMURAL ABSCESS OF GALL-BLADDER.

By Dr. J. L. Dawson. (*New York Medical News*, Dec. 6, 1890.)

Operative procedures for the removal of the gall-bladder are sufficiently rare to render the following case of interest, and its successful result makes it well worthy of record. Mrs. L., aged thirty, married; two children. Under constant observation for menstrual trouble, associated with prolapsed ovary and hysteria. Rather constipated, but alimentary system otherwise normal. On June 2, 1890, Dr. Dawson was called to patient, and found that the menstrual flow had been checked after getting wet through three days previously. She complained of dull, aching abdominal pain. Three days later she had a severe rigor with profuse sweating and a temperature of 104°. On the two following days similar symptoms presented themselves about the same hour, and the temperature fell after each sweat, so that the case was regarded as one of malarial quotidian fever. On June 15, however, a tumour was discovered in the right hypochondriac region extending obliquely to the middle line, and reaching an inch below the umbilicus. It was well defined, being pear-shaped, with the base downward and forward. Rigors and high temperature continued; and the abdomen became extremely tender. Stools fluid and bile-stained. On aspiration with a large Dieulafoy's aspirator (after preliminary puncture with fine needles) two ounces of thin muco-sanious fluid were drawn off. The latter was colourless, of low specific gravity, and contained a large amount of sodium chloride. The fluid from the previous exploratory punctures was devoid of albumen, but that last drawn off contained a small quantity of pus and blood. After aspiration the patient's condition improved for thirty-six hours, when she experienced another rigor, with a temperature of 104°. Operation was determined on, and the patient anæstheticised. An incision three and a-half inches long was made over the tumour parallel to the middle line, corresponding to the centre of the right rectus muscle. It extended from the last true rib to one inch below the umbilicus. After the hæmorrhage was thoroughly controlled, the peritoneum was divided on a director to the full length of the wound. The tumour adhered by its upper surface and neck to the under surface of the liver. Adhesions were separated by the finger; the pedicle was transfixed and secured by

a stout silk ligature, and the tumour removed. Four days after operation patient passed about four ounces of blood from the bowels. The wound discharged pus a week after operation, and bile for the next ten days. On the forty-eighth day the silk ligature came away through the fistulous opening. Patient ultimately made a complete recovery, and has had no return of hysterical symptoms. The tumour is described as "the gall-bladder hypertrophied," and thickened by inflammatory products. Its walls were from three-fourths to seven-eighths of an inch thick, and contained an abscess cavity about the size of a large filbert. This abscess had opened into the gall-bladder and had thinned its walls, so that rupture into the general cavity of the peritoneum seemed imminent. The sac contained three large gall-stones, weighing respectively, seventy-nine, eighty, and eighty-one grains. These stones were polyhedral and showed well-marked facets. They completely filled the cavity and occluded the orifice of the duct. The cavity also contained two drachms of muco-pus unstained with bile, and no trace of biliary matter was discernible. The hypertrophied cyst measured four and three-quarter inches in length by two and one-half inches in its greatest width. Dr. Dawson remarks that the diagnosis in this case was an extremely difficult one. The patient was known to have a sub-acute ovaritis and showed symptoms of sepsis and concealed abscess, with no sign of derangement of the liver or intestinal tract. The appearance of the tumour and the fluid aspirated therefrom suggested a hydatid growth that had broken down and suppurated. The gall-bladder had not performed its function for years, and yet there had been no evidence of the fact. The abdominal section, therefore, from the necessity of the case, partook more or less of the nature of an exploratory incision.

DOUBLE INGUINAL HERNIA IN A HERMAPHRODITE.

By C. N. D. Jones, M.D. (*N. Y. Medical Record*, Dec. 27, 1890.)

The patient whose case the author describes was a "girl," aged twenty-one, who had been reared as belonging to the female sex, but examination showed that "she" is a true representative of transverse hermaphroditism, although of an unusual type. She came for advice for a double inguinal hernia and amenorrhœa. At times the ruptures were very painful, so much so that she could not attend to her work. The patient had never menstruated, nor had any symptoms thereof, nor was there any history of vicarious menstruation. Her mother had eight daughters, two of whom were similarly afflicted. Large in stature, the patient had the appearance of a handsome, well-formed woman—thorax, pelvis, and body generally, were of the feminine type; mammæ and nipples were fairly well developed; the voice was feminine, though the larynx was more prominent than is usually seen in the female. The external sexual organs were those of a female, and in general were well formed, the clitoris and nympha were perhaps smaller than natural, and the vaginal orifice was rather contracted and partly closed by a hymen. The fossa navicularis was distinct, and the vagina normally situated, but extremely short and narrow, not more than two inches in length, and at this upper extremity terminating in a blind cul-de-sac, without any trace of the uterus or of the tubes or ovaries. Under ether, and by combined vaginal and abdominal examination, there could not be detected the least tumour or swelling or anything resembling the uterus or the Fallopian tubes; but in the region of each external abdominal ring there was a hard body which the author then proved to be a prolapsed ovary. These bodies were extremely sensitive on pressure, and they were irreducible. The pain in these enlargements becoming more distressing and intolerant, the patient was anxious for something to be done; and accordingly an operation was decided on. Preparations were made as for laparotomy. Upon cutting down on the hernial bodies, the author came upon a firm fibrous envelope enclosing the organs in a sac. Upon opening this no communication with the peritoneal cavity could be found, except by some firm fibrous bands which attached the organs to the internal surface of the abdominal wall. Before tying and severing the pedicles, and in order to be certain that no abdominal organ was included in the neck of the sac, the author made a medium abdominal section and examined the site of the tumour from within. Only a fibrous cord running downward and backward could be felt from the aspect of the internal abdominal ring and becoming lost in the floor of the pelvis. From this internal examination there was still no trace to be detected of the uterus or other sexual organs. After these procedures the abdominal wound was closed, the pedicles were tied with a strong silk ligature, the tumours were removed from each side, and the wound was dressed antiseptically. The patient recovered well, and expressed herself as being in better health and more comfortable ever since. The tumours were found, on examination, to be testicles.

WOUND THROUGH THE PATELLA INTO THE KNEE-JOINT: RECOVERY WITH PERFECT USE OF THE JOINT.

By Dr. J. Currie. (*British Med. Journ.*, Jan. 3, 1891.)

The author records the following case:—On January 18th, 1889, a little boy, aged four, was sitting on the ground playing near a hayrick, from which his father, an agricultural labourer, was cutting hay. The heavily bladed knife commonly used for this purpose fell from the rick and cut across the child's left knee, inflicting a diagonal wound about two inches long in a direction from the upper and outer to the lower and inner aspect of the joint, completely dividing the patella and exposing the joint. The child was brought without delay into the Totnes Cottage Hospital, and after cleaning the parts, with the help of Dr. Raby, the cut surfaces of the patella were accurately approximated, the wound in the integuments stitched with silver sutures and dressed with carbolic oil, pads applied above and below the wound, and a figure of 8 bandage round the knee, the joint being then kept at rest by a posterior splint. The boy never had a bad symptom; the wound healed by first intention, and he returned home on March 13th with a sound joint, wearing for some time after, as a precaution, a simple bandage round the knee. On November 20th, 1890, twenty-two months after the injury, the report was that on examination a scarcely perceptible projection at the outside of the knee was to be detected, that a stranger would not observe anything unusual in his gait, that he can lift the leg as well as before his accident, and that he can walk two miles every day to school and two miles back again without

any bad effect. This case resembles closely that recorded by Mr. Swain, of Plymouth, in the *British Medical Journal* of November 15th, 1890. With this difference in the treatment—that a perfectly consolidated patella resulted without the aid of sutures through the bone.

Medicine.

CEREBRAL TUMOURS FORENSICALLY CONSIDERED.

By Dr. H. Bernheim. (*Friedreich's Blätter*, Heft. vi., Nov. and Dec., 1890.)

After a critical examination of the literature of the subject and of special cases, the author concludes as follows:—(1) By the term "cerebral tumour," in its forensic aspect, is meant any localized circumscribed new formation within the cranium, which tumour from its size causes symptoms of pressure and irritation, and finally causes death. (2) Cerebral tumours are often caused by bodily injury, and may, therefore, become subjects of consideration both in criminal and civil courts. (3) Any injury causing a cerebral tumour is to be qualified as severe. (4) Cerebral tumours often cause the civil and criminal irresponsibility of the patient. The *exploratio mentalis* should always be instituted in the case of a criminal suffering from cerebral tumour. (5) Such tumours may remain latent during life, and suddenly cause death, otherwise inexplicable; on the other hand, a tumour may be found *post mortem*, which has had no relation with the death of the patient.

THE MENTAL CONDITION OF AN INDECENT DELINQUENT.

By Dr. Hotizen. (*Ibid.*)

The author was requested by the authorities to report on the sanity or insanity of a man, aged thirty-seven, who during fifteen years had been repeatedly charged with indecent exposure of himself before young girls. During the greater part of this time he had confined himself to exposure of the penis with various antics before girls of between ten and sixteen years of age, occasionally going on to onanism in their presence, having ascertained that they were alone, or, if several were present, that no seniors were at hand. But of late years he had occasionally gone on to solicit them to coition. These exhibitions took place two or three times every year, and he was often punished by various courts, and twice confined for a year at a time. From a careful review of the whole circumstances, Dr. Hotizen considered that the man, during these attacks, was not responsible for himself, that they were attended with almost complete loss of consciousness, and that in all probability they were of epileptoid character. Accordingly the man was incarcerated in a lunatic asylum, but we are told in a note that he escaped a fortnight afterwards.

A CASE OF ACROMEGALY.

By Dr. C. Gerhardt, Berlin. (*Berliner. klin. Wochensch.*, No. 52, Dec. 15, 1890.)

This case was brought forward at a meeting of the Gesellschaft der Charité-ærtze, Nov. 13, 1890. When a new disease is described, cases described long ago under other names are referred to it; Friedreich's case, described many years ago in vol. xxxiv. of Virchow's *Archiv.*, is an example. In the beginning of 1890, Pierre Marie, who first isolated this disease, declared that many cases of acromegaly so called, notably those of Erb and Frantzel, were not examples of true acromegaly, but belonged to a new disease which he denominated, "hypertrophic pneumic arthro-osteopathy." (This name is too long to be lasting.) It is an enlargement of the bones in the neighbourhood of joints dependent, as the word "pneumic" indicates, on chronic lung diseases associated with venous stasis—bronchiectasis, emphysema, &c. In true acromegaly the face participates in the enlargement, but in this new disease it does not. Again, in genuine acromegaly there is always kyphosis of the cervical or upper dorsal vertebræ; whereas in the counterfeit, the kyphosis, if it exist, is in the lower part of the spinal column. Further, in true acromegaly the fingers are uniformly enlarged, whereas in pseudacromegaly the terminal phalanges are the parts chiefly affected, the fingers having a more or less drum-stick appearance. The wrist and ankle joints are scarcely affected, according to Pierre Marie, in true acromegaly, but in the new disease both joints strongly participate, also the clavicles and sternum; in fact there is an approach towards general hypertrophy of the bones. The case shown by Dr. Guttmann corresponded to a description of pseudacromegaly rather than true acromegaly. It is thus summarized:—Man, aged sixty-two, coachman of a colleague, exposed in all sorts of weather, and at hard work when at home. Had often had severe colds, once gonnorrhœa, also syphilis. Drank brandy occasionally, never to a great excess. After the death of his master he became a porter, and lived in a cellar-dwelling. In October, 1888, pains began in the left ankle, then the right, then both wrists. The pains have persisted up to the present; they are the chief complaint of the patient. He became weak and languid. The hands and feet enlarged steadily, and the proximal phalanges became covered with a thick hairy growth, extending over the metacarpal aspect and the wrist, and ending in a ring around the lower part of the forearm, where in fact the enlargement ends. The terminal phalanges were the most enlarged, and the nails frequently broke off. The feet were similarly affected, except as to the hair. The hands are paw-like, and extremely clumsy. His pulse is rather frequent, and somewhat irregular. He is quite free from fever, but suffers from sweats; these were worse some time back than at present, and chiefly affected the part which was at the time most painful. He had numerous nævi on his body. The right palpebral opening was narrower than the left. The case is thus evidently of rheumatoid character.

ANOTHER CASE OF ACROMEGALY.

By Dr. Gauthier. (*Centralb. f. d. Wissench. med.*, No. 50, 1890.)

A man, aged forty-nine, had shown the first signs of the disease at the age of twenty-five. There were headaches and vague pains in the back and limbs, also impotence during the first years of the commencing enlargement of the hands and feet; otherwise the general health was pretty good. Gradually the strength declined (cachexie acromegalienne), and he had cardiac dilatation and albuminuria. As to the etiology the author inclines to Kleb's opinion, accord-

ing to which the disease is due to extreme development of the vascular system, due itself to persistence of the thymus. In the patient an enormous increase of vascularity was observed in the extremities, with local rise of temperature. In all autopsies hitherto the hypophysis has been found greatly enlarged, though this can hardly be a cause of the universal trophoneurosis. Finally, the author mentions that two cranial injuries, one eight the other three years ago, made his condition much worse directly afterwards; injury may possibly have some etiological significance.

FEMORAL PHLEBITIS IN TYPHOID FEVER.

By Dr. Chew. (*Medical News*, 1890.)

In this communication the author suggests that obstruction of the femoral vein in cases of typhoid fever is a less uncommon complication of the disease than might be assumed from the rare mention made of it in clinical manuals. In his own experience he is able to recall four instances of the affection, all in patients seen by him in consultation; two were males, and two females, and in all the phlebitis affected the left side, while in every case recovery ensued. The difficulties in the way of accounting for the presence of the condition in those cases which exhibit it are enhanced by the small opportunity which they afford for direct examination *post mortem*, death being the exception with them. Slowing of the blood-current consequent on cardiac enfeeblement does not approve itself as an explanation to Dr. Chew, who suggests that the cause of the phenomenon may possibly be of an anatomical nature, and be found in the increased length of the left iliac vein. In some subjects this vessel has been demonstrated to ascend as high as the kidney before joining its fellow by the opposite side, first receiving the corresponding renal vein; and quite possibly the tortuous and extended length of the vessel, destitute of valves as it naturally is, may be a contributing factor of the obstruction in those bodies wherein it occurs. Verification of this theory, however, by *post-mortem* evidence has not yet been forthcoming, but the fact that such obstruction does sometimes occur, and may be attended with most painful symptoms, is sufficiently well attested.

A NEW METHOD FOR TREATING ANEURISMS.

By Dr. MacEwen. (*New York Med. Rec.*, Dec. 1890.)

It is merely a truism to remark that, whenever we find a number of remedies recommended for any particular disorder, they are generally equally valueless. This is particularly the case with aneurisms. Still, undeterred by the failure of others to hit upon any satisfactory method for so treating the interior of the aneurismal sac, so as to produce an adequate clot, Dr. William MacEwen, of Glasgow, has recently come forward with yet another expedient. He thinks that former methods, such as galvano-puncture, introduction of wire, catgut, etc., have all been deficient, in that they produced only red thrombi, which can be absorbed or washed away. He aims, therefore, to produce in the aneurisms a white, hard thrombus. This he does by introducing a long, sharp needle, and scratching the internal surface of the tumour, thus producing a proliferation of leucocytes. Four cases are reported upon of abdominal and thoracic aneurisms, with the cure of three.

NITROUS OXIDE, COCAINE, AND OTHER ANÆSTHETICS.

By Dr. W. J. Fleming. (*Glasgow Med. Jour.*, Dec. 1890.)

In a discussion on anæsthetics, at the Glasgow Medico-Chirurgical Society, Dr. Fleming remarked that he found house surgeons, as a rule, who came to Glasgow hospitals, had no knowledge whatever of the mode of using ether, and he was obliged to train them to it. His experience was, that in the administration of anæsthetics the first stage was not so dangerous as the last. They should remember the teaching of Sir Joseph Lister, that when symptoms of danger presented themselves, the pulling forward of the tongue was not only intended for the mechanical clearance of the larynx, but was subsidiary to the reflex stimulation of the respiratory centre. Practical experimenters were aware of the proneness of dogs to succumb to chloroform, and he had been long ago compelled, as a matter of economy, to use ether for that purpose. In regard to cats, the case was exactly the reverse, and to kill a cat with chloroform was a very difficult thing. This important matter of idiosyncrasy did not appear to have been commented on by the Commissions. As regards nitrous oxide, he thought it remarkable that hospital surgeons did not avail themselves of it more commonly in small operations, which did not take, say, more than thirty seconds. He had constantly used it in the Royal Infirmary, and sometimes four or five cases could thus be disposed of in a few minutes. Cocaine was very useful, especially where its effects could be localised. In such an operation as the amputation of a smashed finger, the injection of a half to three-quarters of a grain of cocaine, if the circulation were controlled above the seat of injection, enabled them to remove the finger quite painlessly. When the whole of the cocaine was thrown into the circulation on the removal of the tourniquet, it was well to place the patient in a recumbent position, else there might be some pallor and faintness. He had seen no other undesirable effects from the use of cocaine.

TRANSMISSION OF TUBERCULOSIS BY MILK.

One of the first to point out the possibility of the transmission of tuberculosis by milk—Dauz, of Copenhagen—has made a new series of experiments upon the subject. Forty guinea-pigs had 2—3 cubic centimètres of milk injected into the peritoneal cavity. The milk was obtained from twenty-one cows, manifestly tubercular, which had been consigned to the slaughter-houses in Copenhagen. The viscera, and particularly the teats, were carefully examined after the death of the animal. In four cases the milk proved to be virulent; thrice the beasts showed tubercular lesions more or less marked. Once the cow was attacked with visceral tuberculosis very advanced, and the breasts indicated a cicatricial contraction of an uncertain origin, which, however, did not appear to be tubercular. In one case the mammary tuberculosis was reduced to two nodules of the size of a pea; one only of the animals inoculated contracted tuberculosis. The following deductions may be drawn from the experiments: namely, that the milk is only virulent in cases where tuberculosis manifestly exists in the beast; that these lesions are far from being exceptional, but that they are often so ill-defined as to render their detection a matter of difficulty during life.

HEREDITARY ATAXY (FRIEDRICH'S ATAXY).

By Dr. Mendel. (*Berliner klin. Wochenschr.*, Nov. 24, 1890, No. 47.)

A convenient enumeration of the chief characteristics of this, for the purpose of differential diagnosis, runs as follows:—(1) Atactic motory disturbances of hands and feet. (2) Atactic disturbance of speech. (3) Nystagmus. (4) Deformity of the feet, with the great-toes permanently flexed. (5) Failure of knee-jerks. (6) No disturbance of sensibility. (7) No disturbance of the visceral reflexes,—bladder normal, also pupil. The disease appears before or at the time of puberty; if it does not occur till after the twentieth year, the diagnosis becomes doubtful as far as regards Friedrich's disease. It has a long and progressive course, and it appears in several members of the same family. The nystagmus is best evoked by turning the patient round three or four times. The patient may live to be thirty or forty years old; treatment is ineffectual.

THE RESEMBLANCE BETWEEN TUBERCULOSIS AND LEPROSY.

By Dr. Arango. (*Revista de Medicina y Cirurgia Practicas*, No. 341.)

At the first Medical Congress of Cuba, held at Havana, in January last, Dr. Arango observes that many authors have admitted the anatomical identity between tuberculosis and leprosy, regarding the last as a special form of tuberculosis modified by various circumstances. He gave the clinical history of some cases of leprosy which had the appearance of phthisis, but in which the microscopic examination of the sputa neither shewed the presence of the bacillus of Koch nor the microbes of Hansen, in any considerable number. Dr. Arango said that, according to the opinion of distinguished specialists, these ought to be diagnosed as cases of phthisis pulmonalis, but the doubts provoked by clinical observation and increased by the bacteriological examination were justified by the autopsy, which proved the absence of tubercle in the lungs. Dr. Arango expressed his opinion that the belief of the common origin of these two diseases was not based upon positive facts. He does not think it probable that in an organism exhausted by the insatiable microbe of leprosy there is any room for the evolution of the bacillus of Koch.

ON AGALACTIA TREATED BY MASSAGE.

By Dr. Schultz. (*Vratch.*, No. 48, 1890, p. 1097.)

The perusal of Dr. Mensinga's paper (*Memorabilien*, March 5, 1890) has induced Dr. K. Schulz to try mammary massage in a typical case of agalactia, referring to his wife. The lady, a generally stout woman, aged twenty-eight, had been unable to suckle her first infant on account of a total absence of milk. Three years later she became again pregnant, her breasts, as on the previous occasion, showing no evolutionary signs whatever. When examined a week or so before the expected labour, the mammæ were found to be as small as an apple, the nipples retracted, and areolar pigmentation and subcutaneous mammary veins hardly perceptible. No glandular structures could be made out on palpation, and not a droplet of fluid pressed out from the nipples. The lady being anxious to suckle the expected child, massage was resorted to. The manipulation consisted in circular frictions, and kneading of the breasts by means of a hand's palm (anointed with vaseline) for one and a-half or two minutes, with subsequent centrifugal strokings in all directions from the nipple. For the first five days (until labour) the *séances* (lasting each ten minutes, or five minutes for each breast) were made once, but later on twice, daily. Just like in Mensinga's case, after the third sitting, there appeared a blue subcutaneous venous network which at first occupied only the anterior aspect of the mammæ, but gradually spread over the whole region from the clavicles down to the nipples, while simultaneously scattered glandular lobules became palpable. After the sixth *séance* the breasts began to slowly swell; during the tenth a few drops of milk oozed out from the left mamma. From that day the manipulations were limited to moderately strong centrifugal frictions of the gland with thumbs (the breast's base being fixed by means of the remaining digits), and gentle, similarly centrifugal, strokings with the whole hand from the nipples to the clavicles, axillæ, and sternum. The secretion of milk gradually increased and ultimately became sufficiently abundant to justify discontinuing the treatment (which had lasted, on the whole, about six weeks). The infant was thriving at the date of the communication (four weeks after the last *séance*).

THE GASTRIC FUNCTIONS IN CHRONIC NEPHRITIS.

By Dr. V. P. Kravkoff. (*A Preliminary Note. Bolnitchnaia Gazeta Botkina*, Nov. 30 and 31, p. 738.)

Dr. V. P. Kravkoff, of St. Petersburg, has examined the condition of the stomach in twenty-six cases (of chronic parenchymatous and interstitial nephritis mostly in middle-aged patients). A general acidity of the gastric juice was determined by means of a deci-normal titrated solution of caustic soda; a free hydrochloric acid, by means of various colour-tests and after Sjöquist's and Bourget's methods; lactic acid, by means of Uffelmann's reagents: pepsine, rennet-ferment (Hammarsten's *Lab ferment*), albumin, parapeptones and peptones, as well as the amylolitic process, by means of Lugol's solution and Trommer's test. The absorptive power of the stomach was appreciated by means of iodide of potassium (which was given internally and subsequently sought for in the patient's saliva), while the motor power was tested after Ewald-Siwert's method (consisting in the internal administration of a ten-grain dose of salol with a subsequent detection of salicylic acid in the urine), and after Leube's plan (pumping out the gastric contents in six and a half or seven hours after a "test-dinner.") The main results of the observations may be given as follows:—(1) In a small group of the cases (four) the proportion of free hydrochloric acid was found to be normal (from 0·11 to 0·17 per cent.; general acidity =from 0·23 to 0·34), but that of pepsine somewhat lessened. In a majority of the patients (fourteen cases) the proportion of the acid was subnormal (varying from 0·011 to 0·09 per cent.; general acidity= from 0·13 to 0·35), and that of pepsine also diminished, though the gastric juice still would digest a proteid tablette in from one and a half to nine hours. In a third group (eight cases) the proportion of the acid (from 0·002 to 0·029 per cent.; general acidity=

0·01 to 0·14), and pepsine was lowered so considerably that the juice failed to dissolve the tablette even after twenty-four hours. (2) Lactic acid was present in all the three groups. (3) Peptones were discovered almost constantly, except a few cases of the third category. (4) The proportion of parapeptones always oscillated in an inverse ratio to that of peptones. (5) The rennet-ferment was also constantly present, but in cases of the third group it showed a distinctly weakened power (the milk-curdling being retarded.) (6) The process of saccharification seemed to be normal. (7) The absorptive power of the stomach did not deviate from the standards, except two cases from the third group in which it was found to be weakened. (8) The motor power was decreased only in five patients of the same category. (9) With improvement in the patient's general state and decrease of albuminuria and dropsy, the digestive power of the gastric juice and the proportion of free hydrochloric acid therein usually correspondingly increased. Dr. Kravkoff's general conclusion is to the effect that renal disease produces a marked influence on the chemistry of the gastric digestion.

A CASE OF DUODENAL ULCER.

By Dr. M. I. Lebedinsky. *(Meditzinskoïé Obozreniё*, Nov. 20, 1890, p. 698.)

Dr. M. I. Lebedinsky details the case of a previously always healthy and well-nourished soldier, in whom, a few hours after a somewhat heavy supper, there suddenly appeared excruciating abdominal pain, intense and frequent, but ineffective "calls" to defæcation, and frequent vomiting. When examined shortly afterwards, the patient was suffering from collapse, his abdomen being considerably distended but not tender, the pulse filiform, the cardiac sounds exceedingly weak, the respiration shallow and quickened, and the temperature strikingly subnormal (33·6° C.). A repeated administration of castor-oil and enemata failed to move his bowels. Under the influence of anæsthetics, the temperature gradually rose to 36·7°, while several hours later there supervened fever, accompanied by a diffuse tenderness of the abdomen and further aggravation of abdominal pain. About thirty hours since the first symptoms the man died. The *post-mortem* examination revealed general acute peritonitis, with an enormous quantity of dirty reddish fluid in the peritoneal cavity. In the upper horizontal portion of the duodenum there was discovered a perforating circular ulcer of the size of a sixpenny-piece, with irregular slanting congested edges and a similarly congested base. No ulcers or scars could be detected in other portions of the gastro-intestinal tract. The stomach contained two ascarids, twenty and twenty-five centimètres long. The author draws attention to the rarity of duodenal ulcers, the absence of any symptoms in his patient previously to the perforation, and a rapid lethal issue caused by the latter.

NOTES ON SOME RESEARCHES CONCERNING VARIOLO-VACCINIA.

By Drs. Eterno and Haccius. *(Semaine Med.* December 31, 1890.*)*

The question of the unity or duality of variola and vaccinia has long engaged the minds of investigators. Quite recently light has been thrown on the subject by Dr. Fischer, Director of the Vaccine Institute of Karlsruhe, who has published a very interesting notice (*Münch. med. Wochenschrift*, October 28, 1890) of the results obtained by inoculating the virus of variola into calves, and thence to the human species. The same subject has engaged the attention of the present writers, who now publish a preliminary account of their work. The experiments conducted at the Vaccine Institute of Lancy (Geneva), at the same time as those of Dr. Fischer, have led to identical results. The supporters of the "unity" doctrine hold that cow-pox is simply variola which has been attenuated by passage through certain animals. The other school maintains that, as the result of direct experiment, variola cannot be transmitted to the domestic animals. It seemed to Drs. Eterno and Haccius that the methods of inoculation practised by these last (puncture, incision) were unsatisfactory, and they adopted either "surface-vaccination" (*Impfflæche*) or inoculation on surfaces prepared in the following manner. The skin, after having been carefully shaved and washed, is rubbed with a piece of glass-paper over a surface of several square centimètres; a little hæmorrhage is thus produced, followed by some serous exudation. This surface is now dried with a clean cloth, and the virus rubbed over it by means of a spatula. It was found that these inoculations were uniformly successful, while those made by puncture or incision failed. The appearance of the "first generation" was somewhat disappointing, consisting of a local eruption with a few scarcely typical spontaneous pustules. When, however, a second or third generation was made from these, the pustules tended to become typical, taking on more and more the characters and course of vaccinia; the eruption of the third generation was indistinguishable from that of cow-pox, and animals thus treated were found to be immune when inoculated with ordinary vaccinia. It was found possible to transmit from calf to calf even up to the fourteenth generation, and the lymph thus obtained, when mixed with glycerine, was quite active at the end of three months, just as is the case with ordinary vaccine. The writers are not yet in a position to state whether all the domestic animals are susceptible, but a "denudation" inoculation on a sheep was successful, while a "puncture" inoculation on a horse failed. The results were identical whether the virus was taken from simple, confluent, or "black" variola. The authors' conclusions are, then, as follows:—(1) Variola is inoculable on the bovine species if the inoculation be properly made. (2) Inoculation in this manner affords a valuable means of obtaining fresh sources of animal vaccine. (3) Variola inoculated on the calf becomes changed after some generations into vaccinia. (4) Their conclusions confirm the views proposed in 1863 by Depaul at the Paris Academy of Medicine.

HOW TO PREVENT DIPHTHERIA.

By Dr. A. Caillé. *(Archives of Pediatrics*, Dec., 1890.*)*

Signal success has attended our efforts in preventing wound-infection, but the prophylaxis of strictly non-surgical disease, has, up to the present, not reached a satisfactory state of development. The difficulty lies in the fact that we have to deal, not with the infection of a visible and accessible lesion, but with the absorption of septic matter through the mucous lining of the

respiratory and digestive tracts. In the present state of our knowledge we look on diphtheria as a disease of bacterial origin, whose propagation is favoured by moisture, and the absence of sunlight. Its pernicious influence is favoured by poor hygienic surroundings, and by the presence of acute or chronic catarrhal lesions of the upper respiratory tract, the usual nidus for its development and propagation. Towards the prevention of infectious diseases in general, and diphtheria in particular, certain systematic methods are directed, which may be classified as follows:—Measures tending to dilute or destroy the existing poison. Measures tending to prevent the infection of the individual. Thus the following features present themselves for brief consideration:—(1) The schools, public, parochial, and private. (2) Homes and dwelling-places of the people. (3) Disinfection and disinfecting stations. (4) Isolating hospitals and temporary homes for poor children. (5) Street-cleaning. (6) Personal prophylaxis. The municipal recognition of diphtheria in large cities is inadequate, and methods of personal prophylaxis are, therefore, of the greatest value and importance. The daily prolonged use of mild antiseptic liquids, by means of spray, insufflation, or gargling, will prevent diphtheritic infection in the absence of filthy carious teeth, and nasal obstruction from adenoid vegetation or greatly enlarged tonsils. This naso-pharyngeal cleansing is indicated, for all those who are exposed to diphtheritic infection, and also as routine treatment in every case of chronic naso-pharyngeal catarrh, pertussis, measles, and scarlatina; in fact for every condition in children where the naso-pharyngeal membrane is hyperæmic, and, therefore, predisposed to diphtheritic infection.

BRAND'S TREATMENT OF ENTERIC FEVER.

By Dr. J. C. Wilson. (*New York Med. News*, December 6, 1890.)

In a paper read before the Lycoming County Medical Society the author discusses exhaustively the modern treatment of enteric fever, with special reference to the method of Brand. Among innumerable plans, a host of drugs, and countless modifications of the methods of administering them, four general methods may be broadly distinguished:—First, the *expectant* plan, which allows the disease to run its course; secondly, *expectant-symptomatic*, or so-called *rational* plan, an extension of the first; thirdly, the *antiseptic* plan, which aims at intestinal antisepsis; fourthly, the *antipyretic* plan, which is based upon the theory that the fever in great part controls the situation. The attention of the physician is directed to the high temperature as at once the most serious symptom, and the chief indication for treatment. The author maintains that dissatisfaction with present methods finds ample warrant in their influence on the death-rate. Thus the London hospitals show a mortality of 17·8 per cent. Dr. Murchison found a death-rate of 17·45 out of 27,051 cases. Numerous other statistics give a mortality varying from 13 to 40 per cent. On the other hand, Dr. Vogl, with strict cold baths, reports, in 1880, 428 cases, mortality 2·7; 1882 to 1887, 141 cases, mortality, 3·5 per cent.; 1882 to 1887 (second series), 144 cases, mortality 4·1. Brand reports 2,198 cases, mortality 1·7 per cent. The method of Brand is described as the following systematic procedure:—Whenever the temperature in the rectum reaches 102·2° F., the patient is placed in a bath of 65° F. A compress, wet with water about five degrees lower, is placed upon the head, or water at a lower temperature is poured upon the head and shoulders. The patient remains in the bath fifteen minutes, during which time he is systematically rubbed by the attendants and encouraged to rub himself. At the expiration of that time he is removed from the bath, and wrapped in a coarse linen sheet over which a blanket is folded, the extremities being thoroughly dried and rubbed. A little wine or spirits is then given. This is repeated every three hours, unless the temperature remains below 102·2° F. The alimentation is liquid, nutritious, and carefully regulated. No drugs are administered. "After six or eight baths Brand declares there remains of the ordinary picture of typhoid nothing more than (*a*) a moderate fever; (*b*) an unimportant bronchial catarrh; (*c*) enlargement of the spleen; (*d*) the rose rash; and (*e*) infiltration of the intestinal glands. The author's own statistics are sufficiently striking. Out of two hundred and seventy-one cases on expectant-symptomatic treatment, with some antiseptics and application of cold water, there was a mortality of 13·29 per cent.; while there were no deaths in forty cases treated with strict cold-water bathing.

A METHOD OF CONFERRING IMMUNITY AGAINST DIPHTHERIA AND TETANUS.

By Drs. Behring and Kitasato.

(*Berliner klin. Woch.*, Dec. 3, 1890; and *Semaine Méd.* December 10, 1890.)

The authors, who are working in Koch's laboratory, declare that they have discovered a method of conferring immunity on animals against diphtheria and tetanus, as well as of curing animals inoculated with the virus of these two diseases. They promise to describe, in a publication which will soon appear in the *Zeitschrift für Hygiene*, all the details of their method; but for the present they are content to relate the following experiments, and to give the conclusions they deduce from them:—If ten cubic centimètres of a virulent tetanus culture (of which five cubic centimètres suffice to kill) be injected into a rabbit, which has been rendered refractory by the author's method, the animal continues healthy, and the immunity thus conferred does not apply only to inoculation with living bacilli, but also to inoculation with tetanus poison. One can inject with impunity an amount of the poison twenty times greater than that sufficient to kill with certainty an unprotected animal. Blood taken from the carotid of a rabbit thus vaccinated was used in the following experiments:—Two mice received in the abdominal cavity 0·2 and 0·5 c.c. respectively of this blood, still fresh and liquid. Twenty-four hours later the two animals, as well as two others for comparison, were inoculated with a virulent culture of tetanus bacilli. The two unprotected mice died of tetanus in thirty-six hours, while the others remained perfectly healthy. Similar experiments made with the serum of the blood of the vaccinated rabbit gave precisely similar results. The serum of animals which have undergone this preventive vaccination is capable of destroying an enormous quantity of tetanic poison. Thus, if we take one c.c. of a culture of tetanus bacilli of ten days' growth, from which the bacilli have been eliminated by filtration (a liquid of which five hundred-thousandths of a cubic centimètre is sufficient to kill a mouse in from four to six days), and if we mix with it five c.c. of the serum of a vaccinated rabbit, leaving the two liquids in contact for twenty-four

hours, one can with impunity inject into mice 0·2 c.c. of the mixture (equal to 0·33 c.c. of the culture), a quantity three hundred times greater than the dose habitually fatal. Animals which have received injections of serum-vaccine, or of a mixture of this with tetanic poison, have since undergone repeated inoculations of virulent cultures without presenting any morbid symptoms. The immunity which they have acquired is thus persistent and durable. Numerous control-experiments with the blood and serum of unvaccinated animals have always given a negative result, and the authors have also shown that the blood circulating in the vessels of living animals that have not been inoculated does not possess the property of destroying the tetanic poison. Behring and Kitasato have arrived at the following conclusions :—The blood of rabbits rendered refractory to tetanus possess the property of destroying the poison of tetanus. This property is possessed by the blood and also by the serum of the blood deprived of its cellular elements. This property is so persistent that it continues even after the transfusion of the blood of serum into other animals. One can thus by transfusion obtain a powerful therapeutic action. The blood of unvaccinated animals does not possess this property. The immunity of rabbits and mice, rendered refractory to tetanus, depends on the power possessed by the serum of destroying, even when it is entirely deprived of its cellular elements, the toxines manufactured by the tetanus bacillus. This is due to an *action anti-toxique on antifermentescible*, which is distinct from what is known as an antiseptic or disinfectant action, this latter being due to a direct action on the living germs and not, as in the former case, on the poison elaborated by them.

HYSTERICAL FEVER.

By M. Boulay. (*Gazette des Hopitaux*, December 27, 1890.)

It has now been well established that elevation of temperature without any inflammatory complication may occur in hysterical subjects. Graves, Wundelich, and Beau admitted its occurrence and gave instances. Among recent contributions to the subject, M. Boulay cites especially Debove, Deleuil, Macé, Chauveau, and Fabre. The etiology of hysterical fever is similar to that of other hysterical manifestations, and although rare in the male, it has been noted in that sex, as in a case published by Chauveau. M. Boulay divides cases of fever of hysterical origin into two well-defined groups. In the first group, the pyrexia is the principal, if not the only symptom. The fever runs its course without the occurrence of any other pathological state. In the second group, much the larger, are included cases where the rise of temperature is associated with other hysterical phenomena, which simulate more or less some visceral lesion. These cases are in practice the most puzzling. The cases in the first group, those of hysterical fever properly so called, are characterised by extreme irregularity in the course of the fever. No two charts are alike. The course is at times continued, with or without evening exacerbations; at times it is remittent, or it may be intermittent. The thermometer may rise above 106° F. in some cases. The duration varies from a few weeks to several months or even years. In all cases defervescence is rapid. The patient is cured suddenly. The general phenomena accompanying the pyrexia vary in different cases. Sometimes they may be completely absent, even the tongue may be perfectly clean, and the pulse, skin, and subjective sensations of heat may bear no relation to the rise of temperature. In other cases there may be present the usual concomitants of fever, headache, digestive disturbance, &c. The most remarkable fact, however, is the absence of wasting. After long-continued high temperature, there may be no loss of weight. Nervous symptoms, of the kind generally associated with hysteria, make their appearance sooner or later in the case. Not unfrequently they take the form of convulsive seizures. In the second group M. Boulay describes forms of hysterical fever which simulate typhoid fever, pneumonia, asthma, pulmonary tuberculosis, meningitis, peritonitis, and intermittent fever. Fever, simulating enteric fever, may set in, after, perhaps, some mental shock, with elevation of temperature, diarrhœa, dry tongue, and dulness of intellect. The diagnosis is difficult, and can only be made on the occurrence of the hysterical phenomena. A sudden onset, after some emotional cause, will put one on one's guard. Hysteria is well known to simulate meningitis. The slow pulse, headache, vomiting, constipation, retraction of the abdomen, and all the symptoms are present, except elevation of temperature. But even this last symptom may be present, and the picture of meningitis, especially of tubercular meningitis, may be complete. The only signs wanting, at least in the hitherto recorded cases, are the partial paralyses. The diagnosis is very difficult, especially in the case of children. Hæmoptysis, cough, dyspnœa, and intercostal pains are often of hysterical origin, and are as a rule, easily recognizable. It is only when these symptoms are associated with a rise of temperature, also of hysterical origin, that the diagnosis is difficult. Most physicians also have observed cases of hysterical peritonitis. One symptom alone is usually wanting, namely, elevation of temperature, but even this may be present. In the treatment of hysterical fever antipyretics have no place. The treatment is identical with that of other neurotic disturbances. As to the pathogenesis of hysterical fever, it is only natural to seek an explanation of the phenomena in some nervous derangement. According to modern views, all fever can be traced to a derangement of the nerve-centres which control the production of heat, especially in the muscles, which represent the chief thermogenetic apparatus. Certain heat-centres exist in the cortex, and others in the corpus striatum, optic thalamus, and medulla. These lower centres stimulate the production of heat, whereas the cortical centres control the action of the lower centres. In hysteria one would be more inclined to suppose a paralysis of the cortical inhibitory centres, rather than excitation of the heat-producing centres at the base of the brain.

TREATMENT OF PULMONARY TUBERCULOSIS BY BROWN-SEQUARD'S INJECTION.

By Dr. D. M. Uspensky. (*Vratch.* No. 48, 1890, p. 1101.)

At a recent meeting of the Society for Protection of National Health, Dr. Dmitry M. Uspensky, of St. Petersburg, has made a very interesting communication on the treatment of pulmonary phthisis by subcutaneous injections of Brown-Séquard's testicular fluid, which method he has tried up to the date in eighteen cases (thirteen of chronic pulmonary tuber-

culosis, three of acute, and two hopeless cases of a generalised disease). As a rule, a rabbit's testicles were employed, which, after excision under all sterilising precautions, were cut into pieces and triturated, by means of a glass rod, with five or ten cubic centimètres of a physiological solution of chloride of sodium. A freshly prepared emulsion of the kind was invariably used, a (Pravaz) syringeful of which was injected (similarly under all antiseptic precautions) into the gluteal region, the procedure being repeated every fourth day. Of the three acute cases, one refers to a youth of eighteen, who had fallen ill with galloping phthisis (at first mistaken for typhoid fever) in March, 1890. After an utterly unsuccessful treatment with inhalations of turpentine with peppermint oil, creasote, meat-juice, etc., on May 1st the injections were resorted to. After a third dose, the patient's subjective state and appetite improved; after a sixth, he got up; after a tenth, night-sweats disappeared tracelessly, and shortly afterwards the temperature permanently returned to the standard; after the sixteenth and last injection, the patient's "appearance became relatively flourishing." When examined in October, he continued to feel well, having gained in weight twenty-six pounds (comparatively with the time before the treatment). The pulmonary dulness, however, remained, neither did the tubercle bacilli disappear from the sputa, but crepitant and subcrepitant *râles* proved to have been replaced by some diffuse sibilant rhonchi. In another case, in that of a gentleman of twenty-eight, with symptoms of two months' duration, the subjective state and appetite improved after a sixth injection, and night-sweats disappeared after a twelfth; after the eighteenth and last, the temperature became normal, and the patient discontinued the treatment, regarding himself as "perfectly well." The physical signs, however, did not show any marked alterations. About the same results were obtained in the third acute case (a girl of twenty-four, with symptoms of three and a-half months' standing), the total number of the injections amounting to sixteen. In chronic and less violent cases, the beneficial effects developed by far more rapidly, the patients usually declaring themselves "well" (and discontinuing any further treatment) even after from nine to twelve injections Summing up his experience, Dr. Uspensky states that (1) the testicular fluid affords a very powerful tonic remedy, which acts beneficially in every one and all of cases of pulmonary tuberculosis, no matter whether the patient is aware of the nature of the remedy employed, or not. Even in severe cases, the patient's subjective state improves after the first three or four injections. Night-sweats disappear commonly after from eight to twelve injections, and even, in milder cases, after three or four. The bodily weight commences to steadily increase from the very beginning, and continues to do so even after the cessation of the treatment, which effect depends upon an "extremely beneficial influence of the testicular emulsion on the digestive organs." Simultaneously with the gaining of flesh, fever decreases, to disappear altogether in milder cases,—after from eight to twelve injections, and in more severe ones, after from twelve to fifteen, while "the pulmonary process also gradually subsides." In short, "the effects of the testicular fluid are so striking that the substance can be regarded as a specific remedy for pulmonary tuberculosis" At at all events, the treatment "gives out of any comparison better results than any other methods yet proposed." (2) The remedy is absolutely harmless, being borne perfectly well even in the worst cases. True, "the first injection is always followed by a fairly intense reaction, but after a second one the phenomena are but mild, while all further injections do not give rise to any reaction whatever." (3) The beneficial effects of the emulsion are distinctly intensified by the admixture of some iodine preparations. (4) Since the tubercle-bacilli do not disappear from the sputa, but only decrease in number with the subsidence of the pulmonary process and diminution of the expectoration, the supposition seems to be justified that the effects of the testicular emulsion are due to its mitigating the virulence of the bacteria.

Pharmacology and Therapeutics.

PYOKTANIN AS A HEALING AGENT AND DISINFECTANT.

(Journal de Med. de Paris, December 21, 1890.*)*

Brandenberg employed this substance in the following manner:—Suppurating wounds were first washed with three per cent. carbolic lotion, and afterwards with one per cent. solution of pyoktanin blue. He obtained good results in some instances, but he considers its application useless against pyogenic micrococci, and only of service in varicose ulcers and similar superficial affections. Another surgeon, W. van Arsdale, made use of gauze impregnated with pyoktanin, one per cent., and considers it a useful application. The dressing seems to be of most service in superficial wounds, such as abrasions, burns, and granulating surfaces. These are speedily brought to a healthy condition without inflammatory reaction, eczema, or pain.

TREATMENT OF ERYSIPELAS OF THE FACE BY CRYSTALLINE ACONITINE.

By Dr. Bourbon. (*Rev. gén. de clin. et de thér.* December 17th, 1890.)

It has been shown by physiological experiments that aconitine possesses the power of diminishing sensation and reducing blood-pressure and temperature. From a knowledge of these facts, Dr. Tison and his pupil, Dr. Bourbon, were led to make a trial of the drug in facial erysipelas, a disease in which hyperalgesia and inflammation are present at a maximum. The result proved a complete success. They found that nitrate of aconitine, administered in doses of one-tenth of a milligramme every two hours, not exceeding a total daily dose of one milligramme, shortens considerably the course of idiopathic facial erysipelas, and gives great relief to the pain.

SULPHATE OF DUBOISINE AS A SEDATIVE AND HYPNOTIC AGENT.

By Dr. Ostermayer. *(Semaine med.* Dec. 31, 1890.*)*

The author has convinced himself by observations on thirty patients, subjects of various mental disorders, that sulphate of duboisine employed in hypodermic injections, is a powerful sedative and hypnotic in mental affections accompanied by excitement and insomnia. Its action appears to be analogous to that of hyoscine, over which it is said to possess some advantages. In

the majority of cases, a dose of one milligramme produces, after about ten minutes, a very marked sedative effect, followed, in from twenty minutes to half-an-hour, by sound sleep. In cases of great excitement, however, two to three milligrammes are needed to produce this effect. The drug, in the doses indicated, has not been known to produce untoward symptoms, and may be used with greater safety than hyoscine in cardiac diseases. Besides the above use, Gubler has employed sulphate of duboisine in the night-sweats of phthisis, and M. Dujardin Beaumetz recommends it in Basedow's disease.

TREATMENT OF MUCOUS COLITES.

By M. Bouveret.

(*Jour. des Sci. Méd de Lille*, December 12, 1890.)

M. Bouveret, after having vainly used various injections containing bromides, turpentine, silver nitrate, etc., in cases of this obstinate affection, has become convinced that the best treatment is to employ injections of warm water, containing 1 to 1½ p. c. of potassium chlorate. The injection is given in the morning after a spontaneous evacuation of the bowels, and, the patient remaining in bed, it is retained as long as possible—half-an-hour to an hour at least. Under this treatment, M. Bouveret has observed several cases completely cured.

TREATMENT OF CHRONIC ULCERS BY FUSCHINE.

By Dr. Julius Rosenberg. (*Medical Record*, December, 1890.)

Dr. Julius Rosenberg writes that he has found fuschine to be of much service in the treatment of chronic ulcers. The formula found the most useful is as follows:—℞. Fuschine, gr. xij.; alcohol; aquæ, āā ʒviij. ɱ. The wound is washed with the solution, and dressed with lint, soaked in the same. The dressing should be changed every two days. The result is said to be striking. Discharge and odour cease immediately. Pain vanishes, and healthy granulations soon spring up. Many hitherto intractable cases succumbed to this treatment, which was applied in over forty cases without any bad results. As fuschine readily stains the hands, it is best applied with a syringe. The advantages of the fuschine treatment are:—(1) That it is very inexpensive. (2) The anelgesic powers are great. (3) It will clean the ulcer, avert suppuration, and prevent the foul odour which often accompanies lesions of this kind

IODIDE OF POTASSIUM IN THE TREATMENT OF DIPHTHERITIC SORE THROAT.

By Dr. Zenenko. (*La Clinique*, December 25, 1890.)

This treatment is not absolutely new. Demarquay gave the drug in doses of from 4 gr. to 16 gr., and found it more efficacious than chlorate of potash, a remedy which found great favour at that time. Ignorant of this, however, Dr. Zénenko conceived the idea of trying potassium iodide in the hope of obtaining under its influence an easy and more rapid detachment of the pseudo-membranes. The result fully justified his expectations, and a record is given of twenty-one cases of diphtheritic throat all treated and cured in this manner. The drug is to be given in doses of 5 gr. to 8 gr., in quantities of ʒij. to ʒiv. daily—less of course in the case of children. It must be given energetically till iodism is produced, and the pseudo-membranes become separated on the second day—or by the fourth day at latest. Painting and cauterization of the throat ought, according to this writer, to be absolutely rejected, their only effect being to irritate the mucous membrane. The only local treatment recommended is to spray or gargle the throat with weak boric or salicylic acid solutions. During the period of defervescence tonic doses of quinine are advised.

THE TREATMENT OF TUBERCULOSIS.

By Drs. Nencki and Sahli. (*La Semaine Med.*, Dec. 10, 1890.)

It will be remembered, doubtless, that Hammerschlag made a communication to the Academy of Sciences, at Vienna, two years ago, relative to an extremely toxic product which he had succeeded in obtaining from the tubercle bacillus. Similar investigations have been carried on by Professors Nencki and Sahli, of Berne, and they have recently published a preliminary report in which they announce that they have isolated bodies analogous to diastases which are capable of exerting a powerful influence on the tubercular process. ("Die Enzyme in der Therapie," *Correspondenz-Blatt für Schweitzer Aerzte*, 1 Dec., 1890). Sahli has recently been interviewed by an emissary of the *Semaine Médicale*, and although he maintained an extreme reserve and declared that he would publish nothing prematurely, it would appear that tubercular subjects are extremely susceptible to the body or bodies which he and his colleague have isolated. The reactions obtained are so like those caused by the lymph of Koch, that there must be, in his opinion, a great similarity between the two products. At the present moment, however, he does not consider himself authorized to assert that any definite cure has been obtained, and he proposes to defer the publication of further details until more definite results shall have been arrived at.

KOCH'S METHOD OF TREATING TUBERCULOSIS.

By Dr. Guttmann. (*Berliner klin. Wochenschr.*, No. 52, Dec. 15, 1890.)

In the course of an address with demonstrations on this subject before the Hufeland Society, Dr. Guttmann showed two cases of apparent cure of pulmonary tuberculosis by Koch's injections. In the *first case*, a girl aged seventeen had the first symptoms of phthisis in December, 1889, with hæmoptysis eight times. In January, 1890, the hæmoptysis recurred, and apical infiltration on both sides was found, also tubercle bacilli were repeatedly found in the sputum. Since September 30 she had been under the new treatment, with the result that at present there is hardly any cough, no bacilli can be found, the percussion resonance is normal, and auscultation reveals only a dry rhonchus here and there. There is no fever, and the girl looks quite healthy. In the *second case*, a girl, aged twenty-five, had been ill two years with left apex-infiltration down to the third rib, and tubercle bacilli in the sputum. She has been under the new treatment since

October 1, and at present the physical signs are all normal, there is no fever, and the sputum is free from bacilli. "Both patients may be regarded as cured of tuberculosis." [This is the first direct claim to success in the treatment of phthisis by Koch's remedy that the reporter has found.] The tolerance towards the injections, which in favourable cases is gradually and steadily established, is very remarkable. Dr. Guttmann begins with one milligramme, repeats the same on the third day, and afterwards increases the dose by one milligramme, always on alternate days, and with due regard to the way in which the system reacts. In one patient he was able to reach 20 milligrammes by the seventeenth day, the dose being latterly increased two milligrammes at a time.

RESISTANCE OF TETANUS-BACILLI TO PHYSICAL AND CHEMICAL AGENTS.

By Drs. Zuzzoni and Cattani. (*Ibid.*)

The practical results of the author's numerous experiments are that amputation of a limb is of no use when tetanus has commenced, the system having already absorbed enough of the virus to cause death. The strongest reagent against this particular is a (one per cent.) solution of nitrate of silver. All dirty wounds, especially if containing particles of earth, should be swabbed with this solution. For further treatment the following solution is best: — Sublimate, 0·1 per cent.; phenol, 5 per cent.; and nitric acid, 0·5 per cent. This mixture is stronger than some of the disinfecting values of its ingredients taken separately, and is useful for application to the surgeon's hands. The lint, bandages, &c., should be steamed (at 100° C.). This rapidly kills the bacillus.

THE THERAPEUTIC APPLICATION OF DIURETIN.

By Professor Erb. (*Archiv. fur. exp. Phath. u. Pharm.* Bd. 28, H. i., ii., Nov., 1890.)

Diuretin is a double salt, viz., theobrominate and salicylate of sodium. Its chief constituent is theobromin, related to caffein. The latter has become rather a favourite; the former, though discovered as long ago as the year 1841, has been neglected. Emil Fischer regarded theobromin as demethyl-xanthin, while caffein is trimethyl-xanthin. The author sums up his conclusions by saying that diuretin has an undoubtedly diuretic action, especially in heart and kidney disease. The amount usually suitable is five grammes per diem. The diuretic action usually begins within the first twenty-four hours, and goes on increasing for several days till œdema has disappeared, or till the medicine is discontinued. It does not appear to have a cumulative action, and its action is not persistent. On this latter point the author differs from Gram, who in two cases found persistence of the diuresis after discontinuance of the drug. It is more suitable in general dropsy than in local accumulations. It acts through the renal epithelium chiefly, and also subsidiarily through the circulation. The general condition is favourably influenced by diuretin, and it has no disturbing effects in the above dose. It may cause diuresis where digitalis, strophanthus, caffein, &c., have failed. Its effect does not fail with repeated recurrence. It may be added to other cardiac tonics with advantage.

BROWN-COLORATION OF THE SKIN AFTER LONG USE OF ARSENIC IN BASEDOW'S DISEASE.

By Dr. Foerster. (*Berliner klin. Wochenschr.*, Dec. 8, 1890, No. 50.)

Arsenical melanosis is not mentioned as an occasional symptom of chronic arsenical poisoning in Ziemssen's work, in Enlenburg's Real Encyclopædie, or in Strumpell's text-book. But in the Corrispendenzblatt für Schweitzen ærtze Jahrg. xx., 1890, Weiss reports two cases, and refers to two others of Haffer (*ibid.* 1889, p. 347), also several cases of other observers. This has induced Dr. R Foerster, of Dresden, to publish his case treated in 1887. A boy, aged ten years, had persistent fever, then exophthalmos and thyroid pulsation. In the course of two months he took 30 grammes of liq. arsen. pot. (Germ. Ph).. He was discharged improved, but returned in a fortnight showing a yellowish coloration of the skin of the face and trunk, which gradually deepened to brown. He then took 25 more grammes of liq. pot. arsen., but the fever, which frequently occurred now, became worse, and the arsenic was left off. Ergotin was administered. The heart, liver, and spleen were all enlarged; the latter felt hard. During three-and-a-half subsequent months the arsenic was taken for the most part steadily, m. v. once or twice daily, making the whole quantity consumed about 100 fluid grammes of liq. pot. ar. Early in 1888 the patient left hospital convalescent, and has not since been seen by the author. But he was reported on Nov. 15, 1890, as being only slightly affected by his old disease, and a light-brown coloration still remained on the chest and abdomen. Oppenheim has reported a case of Basedow's complicated with Addison's disease, but the author does not think that the coloration in his case can be accounted for in this way.

SANTONINOXYIDE AS A SUBSTITUTE FOR SANTONIN.

By Prof. Coppola. (*Gazetta degli Ospitali*, No. 52, 1890.)

This substance, obtained from santonin by Professor Canizzaro, is a solid in the form of white needles, which do not alter in the light as santonin does, soluble in alcohol, ether, oils, and fats, but insoluble in water. It does not combine with alkaline carbonates, and it is not split up by lactic acid or other organic acids, nor by the gastric juice. Animals that easily show convulsions after slight doses of santonine, bear santoninoxyide very well. Prof. Coppola, who has carefully examined the action of santonin, concludes that it does not kill round worms, but causes convulsive movements in them, owing to which they are easily removed from the bowel by an aperient. But santonin is readily absorbed from the stomach, owing to its solubility and the ease with which it forms soluble compounds; hence disturbances result which may become veritable poisoning. As its beneficial action is owing to its direct action on worms, this action is lessened as more of the drug is absorbed from the stomach. Santoninoxyide is a derivation which preserves the anthelmintic properties of santonin, while, owing to its difficult absorption, it is devoid of the disadvantages and dangers of that body. The author advises that santoninoxyide be given in a dose three times as large as santonin, for two or three days, to be followed by an aperient.

PROTOPIN.

By Dr. R. v. Engel. (*Archiv f. Exp. Path. u. Pharm.*, Bd. 27, H. vi.)

This alkaloid—of the composition C_{20} H_{19} NO_5—was obtained from opium by Hesse in 1870. It exists in very small proportions in opium; Hesse only obtained 1·5 grammes of it with 80 grms. of cryptopin; Merck, in producing 1½ kilo. of cryptopin and 150 grms. of laudanosin, obtained only 50 grms. of protopin. Eykmann has found it in Maclaya cordata; Selle in Chelidonium majus, also a body probably the same in Stylophoron diphyllum. All these plants belong to Papaveraceæ. Protopin, which melts at 202° C., gives a characteristic reaction with sulphuric acid, the crystals becoming first yellow, then black, while the acid shows violet stripes. The physiological action was examined by the author as regards frogs, guinea-pigs, rabbits, and cats, and the following are his conclusions:—(1) In small doses, in the frog, protopin acts narcotically, like most opium alkaloids. (2) In large doses, it has a paralyzing action on muscular substance, and on peripheral nerves. (3) Reflex excitability is preserved after small or moderate doses (2 to 4 c. grm. subcutaneously), but lost after large doses. (4) In the case of mammalia, protopin-poisoning is similar to camphor-poisoning, but differs in that it paralyzes the circulatroy organs.

THE ACTION OF CRYSTALLIZED PODOPHYLLOTOXIN.

By Dr. Neuberger. (*Arch. f. exp. Path. u. Pharm.* H. i.-ii., No. 27.)

Podophyllotoxin is the most important constituent of rhyzoma podophylli peltati. Experiments by the author give no ground for assuming that it has any action on the central nervous system. The convulsions that appeared towards the end of life are secondary effects of the profound disturbance of the digestive organs. If the nervous system were directly intravenous, injection would quickly be followed by changes in the perspiration and blood-pressure. A dog was tracheotomized, and one carotid was connected with the kymographion. Then the injection of 0·01 podophyllotoxin into the jugular vein had for half-an-hour no effect of any sort. The animal was now cararized, artificial respiration was set up, and 0·03 grammes were slowly injected into the vein. This also had no effect. After two hours the dog was killed, and the duodenum was found to exhibit already an unmistakeable change of the mucous membrane. In fact this medicine acts chiefly on the mucous lining of the upper bowel, but it also sets up venal inflammation (glumerulo-nephritis); this, too, is due to its local action, and points to very careful use of such a substance, especially in subcutaneous injections.

THE COLD-BATH TREATMENT OF TYPHOID FEVER.

By MM. Lyonnet & Chatin. (*Lyon Médical*, Dec. 7, 1890.)

MM. Lyonnet and Chatin, in a brief paper, describe fifty-three cases of typhoid fever which were treated at the Croix-Rousse Hospital between the 1st of May and the 1st of November, 1890. Of the fifty-three cases, forty-nine were treated with cold baths, strictly after the method of Brand, and four were not so treated on account of being exceedingly mild cases. One death occurred, that of a woman aged forty-eight. She died on the eighteenth day in a state of extreme adynamia, having suffered from severe dyspnœa, delirium, and intestinal hæmorrhage. She had only taken six baths, the temperature not running high. This excellent result, of one death in fifty-three cases, or 1·8 per cent., was obtained in a series of cases which included many grave forms, some old persons, and some who were only brought to the hospital late in the disease, and with various important complications. Some cases suffered from old cardiac affections, which, however, led to no accidents in the treatment. One case, a man, aged twenty-eight, had intense delirium, convulsive crises, multiple abscesses, and suffered a relapse. He recovered after ninety-three baths. Another case, a girl, aged twenty-eight, had high temperatures, which necessitated baths every two hours, and several times the bath was preceded for half an hour by a wet sheet. She recovered after 126 baths. The authors think the success of the treatment shows the value of the method of Brand, when applied conscientiously and strictly, by a *personnel* endowed with an earnest conviction of its value and importance.

ON DIOXIDE OF HYDROGEN.

By Dr. John Aulde. (*New York Medical Journ.* Dec. 27, 1890.)

The author considers the true position of oxygen as an antiseptic has been ignored. While the spores of anthrax bacilli resist concentrated solutions of boric and salicylic acids, oxygenated water has been shown by Paul Bert and Regnaud to possess the power of destroying them. For a long time the general employment of this agent was prevented by various causes. The expense, the inconvenience attending its exhibition, and the instability of the preparation, have all contributed to lessen its use, but all these difficulties are now removed. Marchand's peroxide of hydrogen has been largely used, and has been found reliable. An atomizer and vaporizer combined, which are required for the exhibition of this substance, are obtained for a small cost, and their use by patients requires little manual dexterity. From peroxide of hydrogen we may obtain, in the form of a vapour or spray, the therapeutic effect of nascent oxygen, and this produce is superior to the gas itself. And in the form of a vapour by inhalation, it increases the secondary assimilation by favouring elimination of excrementitious products. Introduced into the alimentary tract, abdominal fermentations are arrested by the destruction of the germs which produce them. The surgeon will find in peroxide of hydrogen an efficient and convenient antiseptic, which can be freely used in the most delicate tissues without producing the slightest irritation. The physician will find it a wonderful revitalising remedy in low conditions and collapse. The author's observations with the vapour and spray in asthmatic conditions have been surprising, and he has found it of signal services in meeting emergencies, such as asphyxia from coal-gas, collapse from hæmorrhage, as well as typhoid and other fevers. This method of treatment is valuable in phthisis in all its stages. It is useful as a spray in all forms of catarrh of the upper air-passages, as well as in diphtheria and croup.

EXPERIMENTS ON THE ADMINISTRATION OF IODIDE OF POTASSIUM IN CONJUNCTION WITH KOCH'S TREATMENT OF TUBERCULOSIS.

By Dr. Heinez. (*Friedreich's Blatter*. Hf. vi., Nov. and Dec., 1890.)

To assist in the absorption of tuberculous products, Heinez proposes the use of potassium iodide as well as Koch's injections. Schleich (see *Therapeutische Monatshefte*, 1890, H. xi.), in an article "On the Internal Use of Potassium Iodide in the Treatment of Wounds of Cavities," obtained the following results. In wounds of the medullary cavities of bones experimentally caused in rabbits and dogs, KI, whether directly applied or given by the mouth, caused a rapid emigration of leucocytes. Used therapeutically in seventy-seven cases to expedite granulations in such wounds, Schleich claimed to have considerably shortened the period of cure. In twenty-five cases of torpid granulations, a cure was obtained with remarkable promptness by giving KI, and this Schleich explained by the very active diapedesis of leucocytes, so essential in the formation of granulations. In fact its well-known absorptive properties depend on this effect; but whether it is due to a general leucocythæmia, or merely a local action, is left undetermined. Heinez has arrived at the same conclusion as Schleich, by quite different experiments. The leucocytes are paralysed in the presence of free iodine, as Binz has shown, and hence the action of iodoform, owing to the setting free of iodine. An alkaline salt of iodine—sodium iodide—was injected twice, with an interval of an hour, subcutaneously into frogs; 0·001 to 0·025 grammes in a 5 per cent. solution. (As a control-experiment, NaCl was injected.) This had quite the opposite effect. Guinea-pigs and rabbits were also tried, cinnabar being previously injected into the abdominal cavity. Its removal into the spleen and liver was far more rapid in those animals treated with NaI than in these treated with NaCl. The distinction was at once evident under the microscope. Heinez thinks this effect is, like the opposite effect of iodoform, due to the setting free of iodine, only in very minute quantities in each leucocyte, so that the effect is an irritating one, not a paralysing. Accordingly the author proposes the energetic administration of potassium iodide to patients who have undergone a course of Koch's injections, in order to facilitate the absorption of tuberculosis foci. The necrotic focus remains a danger to the whole body. Professor Mikulicz and the author have this treatment in view in the immediate future.

THE PHARMACOLOGY OF IRON, ESPECIALLY ON THE VALUE OF THE SUBSTANCE AS A HÆMOPLASTIC AGENT.

By Prof L. I. Tumas. (*Transactions of the Warsaw University Medical Society*. Vol. I. part i. pp. 1 & 7.)

Prof. L. I. Tumas, of Warsaw, communicates his experiments on dogs which he has made with the aim to study the influence of iron on the process of blood-formation in such cases where the substance is introduced artificially (that is, apart from food). Two preparations—*ferrum hydrogenio redactum* and *ferrum pyrophosphoricum cum sodio citrico*—were selected for the purpose, the former being administered internally (from 0·03 to 0·06 gramme a day), the latter subcutaneously (from 0·005 ot 0·01). In one set of experiments the animals were subjected to venesection, the quantity of extracted blood varying from 15 to 55 per cent. (of the total amount of the animal's blood). The following are the essential conclusions drawn from the research:—(1) In normal animals (eight experiments), iron, whether introduced through the stomach, or under the skin, does not produce any changes either in the numerical strength of red blood-corpuscles, or in the proportion of hæmoglobine, or in the blood's bulk or weight. (2) In such cases of anæmia (induced through venesection), in which the amount of extracted blood has not exceeded 25 per cent. of the total (four experiments), a subsequent introduction into the animal's system of chalybeates does not seem to accelerate the regeneration of blood, comparatively with such animals which do not receive any steel-preparations after blood-letting. (3) But in cases (eight experiments) of a more abundant bleeding (from 26 to 55 per cent.), such animals as are receiving iron return to their normal state by far more quickly than those left without iron. (4) The restoration of hæmoglobine proceeds by far more rapidly than that of red blood-corpuscles. (5) The administration of iron does not produce any impression on the bodily temperature. (6) On the whole, the experimental evidence fully justifies the old hypothesis, according to which iron-preparations, when introduced into the organism in an artificial or therapeutical way, develop a direct, or, so to speak, active structural influence on the blood-formation. In other words, the remedies transform in the system into ferruginous albuminates which, having undergone some yet obscure metamorphoses, come to be utilised for the formation of hæmoglobine, and thus promote the process of hæmoplastics. (7) Rational indications for the therapeutic use of chalybeates are constituted by cases of chlorosis and anæmia arising from large acute or chronic blood-losses.

THE ACTION OF IRON PREPARATIONS ON THE ANIMAL SYSTEM.

By Dr. Nikolai Skvortzoff. (*St. Petersburg Inaugural Dissertation*, 1890, No. 66.)

Dr. Nikolai P. Skvortzoff's monograph on the subject is based on his experimental researches conducted partly in Professor S. Tümas's laboratory in Warsaw, partly in Prof. S. A. Popoff's, in St. Petersburg. The experiments were made on adult dogs (weighing from 8·5 to 9·2 kilogrammes), iron being invariably introduced internally, with food. In one series of experiments *ferrum hydrogenio redactum* (in the daily dose of from 0·02 to 0·15 gramme), in another *ferrum lacticum oxydulatum* (from 0·1 to 0·25 gramme a day), was used. In some animals æanmia was repeatedly induced by means of bleeding, the quantity of blood extracted varying from 25 to 34 per cent. The main outcome of the investigations may be briefly sketched as follows:—(1) When administered internally with food to a healthy animal, iron does not manifest any appreciable influence on the nitrogenous metabolism, but does increase the disintegration of fats and carbohydrates. Hence, in the animal brought into the state of the so-called "nitrogenous balance or equipoise," the administration of iron is followed by a temporarty loss of the bodily weight (accompanied by a slight increase in the daily quantity of urine). To prevent the loss—that is, to keep up the system in *statu quo*—an increased supply

of fats and carbohydrates becomes necessary. (2) In healthy animals, on the internal use of reduced iron in the daily dose of 0·02 or 0·03 gramme, the assimilation of proteids shows a slight decrease. (3) The bodily temperature continues to oscillate within normal limits, though the evening rises prove to be somewhat higher, comparatively with those observed in the same animal previously to the administration of chalybeates. (4) In anæmic animals the assimilation of nitrogen seems to somewhat improve. (5) The internal use of iron after bleeding most markedly promotes the restoration of the normal proportion of hæmoglobine in the animal's blood. In such cases of artificially-induced acute anæmia where no iron is given, the percentage of hæmoglobine attains its normal level about the tenth day after venesection, while in those where chalybeates are administered, the percentage becomes normal on the fifth day. (6) The assimilation of iron from the gastro-intestinal canal increases after bleeding. (7) The absorption, however, does not show any parallelism with the quantities of the drug injested. Only such amount of the latter is assimilated as is necessary for covering the system's needs in regard to the metal. (8) In such cases of bleeding where iron is given after the operation, the body's weight increases by far more rapidly than in those in which no chalybeates are employed.

TREATMENT OF EXOPHTHALMIC GOITRE.

By Professor Jaccoud.

(*Lyon Médical*, December 21, 1890.)

The treatment to be adopted must be regulated with regard to the etiology. In one class of cases, and perhaps these are the most important, there is a marked anæmia. Here preparations of iron are very useful; but when anæmia is absent their effect is, on the contrary, hurtful, and their employment only aggravates the symptoms. Careful consideration is therefore necessary before prescribing a ferruginous course. In the early stages, also, disorders of menstruation, which may play an important part in the etiology, must be treated. But at a later period these troubles are generally rather the result than the cause of the disease. The treatment *par excellence* of exophthalmic goître is comprised under the two headings—hydrotherapy and electricity. As regards *hydrotherapy*, treatment should commence with tepid or even warm douches; a cold douche given at the commencement often so aggravates the cardiac trouble that the patient will refuse to continue the course. These douches, which should at first last only about twenty-five or thirty seconds, must be given daily. Their temperature may after a time be gradually reduced, and eventually quite cold water will be borne. The best form of *electricity* to employ is bilateral galvanism of the neck by continuous ascending currents. The applications should be daily, and the strength of current weak—not more than from eight to ten cells are necessary. Charcot recommends also galvanisation of the præcordial region combined with faradisation of the neck. The *medicinal treatment* which has seemed most efficacious in the writer's hands consists in the prescription of arsenic and bromide of potassium, with a milk-diet. The arsenic is to be given with meals, in doses commencing with $\frac{1}{32}$ grain, repeated twice daily, increasing this quantity gradually and with intermissions up to $\frac{1}{16}$ grain—rarely more. The potassium bromide is given in daily doses of ʒss., gradually increased to ʒi., between meals. Milk-diet need only be partially adopted in slight cases, but in severe forms this is one of the most powerful aids to treatment. The above-indicated course should be patiently continued for weeks, or even for months. Relief is nearly always obtained, but complete and definite cures are very rare. Many other remedies have been proposed. Friedreich recommends the prolonged use of quinine in doses of 8—12 grains daily. The writer has, however, found this treatment painful and of little benefit. Bacelli uses bromide of camphor, and M. Sée tincture of veratrum viride (mx.—mxx. daily.) With regard to potassium iodide or iodine, which one might be tempted to give on account of the goître, it is to be borne in mind that *no remedies are more hurtful or worse tolerated.* Another treatment sometimes very useful, but in other cases most harmful, and of which the results cannot be foreseen, is the application of ice to the præcordial region and to the neck. This should never be adopted unless the patient can be very carefully watched, there being always a danger both of aggravating the circulatory troubles and of causing inflammation and sloughing of the distended skin covering the thyroid gland. Although brilliant results have been obtained by this method, it is one which is only applicable to very special cases.

THE TREATMENT OF CANCER BY THE INTERRUPTED CURRENT.

By Dr. J. Inglis Parsons. (*Provincial Medical Journal*, Dec. 1890.)

"Cancer consists," according to the view adopted by Dr. Parsons, "of new cells formed during the process of repair or inflammation, and which, in an active state of proliferation, have escaped from the control of the nervous system." They are thus less able than normal tissue-cells, which own subjection to a nervous government, to resist any destructive influence brought to bear upon them. And in the interrupted current, the author believes that he has found an agent that is capable of paralysing the activity and effecting the destruction of the cancer-cells. The processes on which the hypothesis rests are carefully explained and the reasoning by which the conclusions arrived at are established is well sustained. The occurrence of malignant growths under conditions of nervous depression, and at sites of constant irritation, is held to be strongly corroborative of the theory put forward, and a further argument in its favour is claimed in the failure of attempts hitherto made to associate the etiology of cancer with the germ theory of disease. The absence of nerves from cancerous tumours, and the corresponding deficiency of recuperative power possessed by them as compared with strictures amenable to the influence of the trophic system especially, deprives the cancer-cells of resisting injury applied to them, and the agent best calculated to inflict the requisite degree of damage is, Dr. Parsons considers, voltaic electricity. He has now carried out this mode of treatment in a large number of cases of unquestioned cancer, in many with undoubted relief of prominent symptoms, particularly of pain; in a considerable proportion with the result that an arrest of malignant growth has undoubtedly been effected for varying periods of time; and in some with apparently complete stoppage. The precautions to be observed in carrying out the treatment are to secure a high intensity of current rather than a large quantity of electri-

city, and that the operator should be completely master of his instrument, being able to test them, and competent to make good any defect in their working. The battery required should be capable of sending five hundred milliampères through a resistance of eight hundred ohms, though the full force of such an instrument is not likely to be called into requisition by any case. Stress is laid on the importance of recognising that varying degrees of resistance will often be encountered in the same tumour, and that hard and soft varieties of cancer possess correspondingly high and low powers of resisting the current applied to them. Heart-disease is described as a contra-indication in some cases, but not in others, the strength of the current having to be regulated in accordance with the existing weakness in this respect. A number of cases in which the electric treatment has been adopted are reported in the communication referred to, and the advantages claimed for the treatment are, first, the absence of shock after an application of the remedy; second, the facility with which it can be repeated in cases of recurrent cancer; third, its applicability to cases in which the disease is beyond the reach of the knife; and fourth, the case with which the whole extent of the disease can be got at in an early stage, comparing thus most favourably with other methods in use.

ANTIPYRIN IN PERTUSSIS.

By Dr. Griffith. (*Medical News*, Dec. 13, 1890.)

The modern treatment of whooping-cough is mainly directed to controlling the spasmodic paroxysms which constitute the main and most distressing features of the affection, and this through the influence exerted on the nervous mechanism by the agency of sedative remedies. Considerable advance in this direction has undoubtedly been achieved in the more recent years, and many of the newer drugs reported to have antispasmodic properties have been impressed into the service of the therapeutist in his contest with this so common child's ailment. Numerous instances have been recorded of the successful employment, in this connection, of antypyrin; and Dr. Griffith, of Pennsylvania, is able to add very conclusive testimony to the value of the substance when thus used. When, however, it is given in the small doses that are commonly employed, he finds that the good effects desired are by no means certain to follow, and his experience points emphatically to the conclusion that it must be given in considerably greater amounts than is usually thought to be sufficient, if the end aimed at is to be secured. His usual plan is to give the seemingly large dose of at least one grain of the drug every three hours to patients two years old, and to those four years old as much as three or four grains. He is convinced that children tolerate remedies of the antipyretic type much better, and in much larger comparative doses than do adults, whether in febrile or afebrile states, and he regards the failure of such agents in other hands as arising from the too timid administration, due to a mistaken idea of the danger incurred by their use. In illustration of this he adduces the non-success of treatment in a recent experience, in which children from two to nine years old were treated to no more than one or two grains of antipyrin three times a-day, and which failure was improperly attributed to the uselessness of the drug employed. On the other hand, he details the case of an infant four months old, who had been coughing at least four weeks, and in whom the disease was at or near its acme, the paroxysms being both frequent and very severe. Three-fourths of a grain of antipyrin was given every three hours, and four days later the child was no better, the attacks being followed by cyanosis and loss of breath. Belladonna, one forty-eighth of a grain, alum, half-a-grain, and whisky, thirty drops, every three hours, were now substituted for the antypyrin, and a few days later when the child was again seen its condition was indicative of impending death. Almost despairing of any successful treatment, antipyrin was once more had recourse to, this time in grain doses every three hours, and the result was that the disease was quickly and progressively conquered, the patient being very greatly improved when seen two days later. The actual progress after the resumption of the increased doses of antipyrin is thus epitomised. On the first day the cough did not improve; on the next it still continued, but with much less severity, and there was no cyanosis. During the succeeding night no cough occurred until five a.m., and the next day there were no paroxysms whatever. The medicine was continued for five days longer, by which time the child coughed only four or five times a-day, and slept well at night.

ON THE ANTISEPTIC ACTION OF PEROXIDE OF HYDROGEN.

By Dr. Pane. (*Annali dell' Instituto d'Igiene Sperimentale dell' Università di Roma*, 1890.)

The author recalls that peroxide of hydrogen, oxygenated water, H_2O_2, discovered, in 1813, by Thenard, was introduced into therapeutics by Dr. B. W. Richardson in 1855. It has been for many years used with success in the treatment of gonorrhœal ophthalmia, purulent otitis, dacryocystitis, and other suppurative processes. Miguel has noted its antiputrescent action. In an elaborate paper of twenty-one pages, Dr. N. Pane calls attention to the direct action of this agent upon bacteria. He gives a description of the chemical properties and method of preparation of H_2O_2, from which it appears that its disinfectant properties depend upon its great oxidising power. Pane tried its effects upon the spores of the bacillus of charbon, the bacillus of typhoid, the bacillus of cholera, and the staphylococcus pyogenes aureus. The author details at length the character and results of these experiments, so that they could be easily repeated. He found that the peroxide quickly destroyed all these pathological microbes. He found that with a given solution the spores of the charbon bacillus lost their germinating power in fifteen minutes, the staphylococcus pyogenes in five minutes, and the bacilli of typhoid and cholera in one minute. We give some of Pane's conclusions: (1) Peroxide of hydrogen in a solution of 1 to 100 has an energetic disinfecting power. (2) The solution 1 to 1000 is a weak antiseptic, and inferior to the corresponding solution of corrosive sublimate. The solution of H_2O_2, in nutritive substance, 1 to 352, not only impedes the development, but after some days kills the spores of the bacillus of charbon. (3) The solution of H_2O_2, in nutritive substances, from 1 to 352 to 5052, impedes the development of the spores of the bacilli of charbon, but does not deprive them of their germinative power when they are transferred to another nutritive substance. Thus oxygenated water in nutritive substances has a more powerful action on the spores of the bacillus of charbon than the corrosive sublimate, since the spores can develop

freely in a solution of gelatine of 1 to 1000 of the mercurial. In the solutions of the peroxide with nutritive substances, it was not found possible to have any development of the bacillus of charbon for a month. After that time, on subjecting the fluid to the vapour of boiling water for two hours, the spores of the charbon bacillus found in it a soil to multiply, but slower than in solutions which had never been treated with the peroxide. Otherwise there was no difference in the bacteria which appeared in these two solutions viewed through the microscope. The rabbits inoculated with the preparation, formerly treated with oxygenated water, died of charbon in from five to eight days.

The peroxide of hydrogen being brought in contact with pus, mixed with liquid gelatine, the result was a rapid evolution of oxygen gas, and the pyogenic bacteria died in from five to fifteen minutes, according to the strength of the oxygenated water used. If a drop of pus was put on the object-glass of a microscope and surrounded with a solution of peroxide, the pus-corpuscles were seen to break as the water reached them and to evolve bullæ of gas. The corpuscles became granular, lost their form, and if the oxygenated water was applied in strength they were reduced to a detritus. In the course of his experiments Dr. Pane found that the power, both of peroxide of hydrogen and of solutions of corrosive sublimate to check the propagation of pathological germs, was much influenced by variations of temperature. At a mean daily temperature of from 26° to 28° C., he found his solutions become sterilised in from fifteen to twenty minutes, whereas at a temperature of from about 20° this result was only attained after an hour and a-half. Dr. Pane then details some experiments made upon rabbits, apparently with a view to ascertain what dose would cause death. Twenty cubic centimètres of oxygenated water injected into the peritoneal cavity of a rabbit caused death in about a minute; smaller doses had less effect. On examining the subcutaneous tissue after injections there were seen bells of air of different sizes. He was unable to explain the cause of the death of the rabbits without resorting to hypothesis.

He tried observations upon the curative action of the peroxide of hydrogen in chronic ulcers. He gives three cases where his treatment was successful. In one of these the sore resulted from caries of the calcaneum, part of which had been scooped out. There was left an ulcer with large torpid flabby granulations. In these cases the cavity of the ulcer was simply washed out with the oxygenated water once a day. Dr. Pane comes to the conclusion that, though, in Italy, this medicine labours under the disadvantage of high price, and does not keep well, it promises to be of great use in fungous ulcers and cold abscesses.

TREATMENT OF PHTHISIS.

By Dr. J. Roussel. (*Therapeutic Gazette*, Dec., 1890.)

At the present time, when the interest of the profession is so specially directed to the treatment of phthisis, suggestions which hold out hopes of success are specially likely to attract attention. Great expectations have been raised by the apparently brilliant results of Koch's treatment. On the other hand, an uncomfortable doubt cannot help making itself felt as to the curative value of this treatment. Will it bring about a certain cure? Is it free from danger? We fear that neither of these questions can at present be answered with certainty. For many patients all will admit that Koch's treatment is inadmissible, and the accidents which have already occurred during its application to advanced cases should act as a strong deterrent to its indiscriminate use. Dr. Roussel, however, proposes another plan of treatment, which is harmless, if thoroughly carried out, and which seems already, in his hands, to be affording apparently satisfactory results. According to his theory, the symptoms of phthisis are due to the efforts of Nature to throw off the microbe which is destroying the system; thus expectoration and suppuration get rid of bacilli, and the raised temperature destroys their chemical products, which are circulating in the blood. He argues, therefore, that our treatment should aim at attacking the microbe, leaving Nature's weapons of defence unhampered. Experience has shown that remedies taken by the mouth for this purpose cause disturbance of digestion, thereby weakening the patient, while they fail to reach the lungs in sufficient quantity to attack the microbes. The plan recommended is to inject various antiseptics, of which eucalyptol and thymol seem to be his favourites, under the skin, whence they become rapidly absorbed, and are carried direct to the lungs. Indeed their odour is noticeable in the breath, even a few minutes after the injection, so that the drug is placed under the most favourable conditions for waging war with the bacillus. The details of the method are as follows:—The drug is used in a 20 per cent. solution, dissolved in perfectly sterile and pure olive oil. This substance is a good solvent, and is easily saponified and absorbed by the organism. Mineral oils, such as liquid vaseline, are to be avoided, as these are substances foreign to the body, and are liable to remain unabsorbed, and cause much irritation. Care must also be taken to ensure the complete asepsis of the operation. The least neglect of antiseptic precautions is likely to cause local abscess and other troubles. The ordinary morphia syringe is, therefore, not suitable for performing the injections, and Dr. Roussel uses one of celluloid—a substance which is light, unbreakable, perfectly transparent, non-porous, and easily sterilised. The needles are of steel, covered with platinum, and are made long, so that the injection can be inserted deep under the skin and far from the point of puncture. It is maintained that if the above conditions be observed, there is no fear of any trouble resulting from the treatment. The earliest cases were placed under observation in 1883, and the success appeared so great that in March, 1888, Dr. Roussel felt justified in bringing the matter before the Society of Practical Medicine. At this time he showed the Society eighteen patients, all suffering from marked phthisis in various stages. He then subjected them to his treatment, and, after twelve months, was able to again bring sixteen out of the eighteen patients before the same Society. Although as many as 4,714 injections had been given, all were able to testify that the skin and tissues at the seat of injection remained perfectly normal, and that there were no signs of inflammation. On the other hand, the patients were either to all appearance cured or greatly improved in health, and in several cases examination of the sputum showed complete absence of bacilli, although on the first examination they had been abundant. Other cases have been treated by the above method at the Laennec Hospital with very encouraging results. A report issued by Dr. Ball on these cases affirmed that the treatment had a very marked effect on the "septic" symptoms of phthisis—night-sweats, diarrhœa, etc.—and that,

while the number of cases treated was not sufficient to justify the statement that a cure for phthisis had been found, yet there was evidently good ground for hope. It is probable that many patients will be found willing to submit to the treatment, and that this method will have a much more extended trial.

Gynæcology and Obstetrics.

AN EARLY SIGN OF CANCER OF THE UTERUS.

By M. Laroyenne. (*Lyon Médical*, Nov. 23, 1890.)

This early sign, pointed out by M. Laroyenne, is as follows:—Whenever one can press the finger-nail into the surface of the suspected cervix, or of the cervical cavity, and remove some *débris* of tissue, one is authorized in affirming the epitheliomatous nature of the malady. This sign is especially intended to differentiate the cancerous cervix, at an early stage, from the cervix in various forms of chronic metritis. In these latter affections, the cervix feels sometimes hard, sometimes soft, but in no case will one find it possible to make the nail penetrate the mucous membrane and bring away fragments.

RUPTURE FROM TRAUMA IN ECTOPIC GESTATION.

By Dr. Thos. H. Manley. (*Medical Record*, December 20, 1890.)

Dr. Thomas H. Manley reported the case of a woman who came to him suffering from pain in the abdomen, and stating that nine days before she had fallen into a deep trench. Five months previously she had considered herself pregnant. Two days before seeing him she consulted a practitioner on account of flooding, and he had diagnosed it to be due to impending abortion. Dr. Manley found fulness of abortion in the left iliac fossa and diagnosed peritonitis. Suspecting the iliac-swelling to be pus, he made an incision and came down upon a mass of blood-clots, beneath which the placenta was discovered, and deeper down near the right kidney a fœtus eight inches long was found. Recovery was complete, which is rare in cases of extra-uterine pregnancy followed by rupture from traumatic causes after the fourth month.

ARTIFICIAL RESPIRATION IN NEWLY-BORN CHILDREN.

By Dr. R. Edwards. (*Indian Medical Gazette*, Dec., 1890.)

The author suggests a new method, "precise and effectual," for performing artificial respiration in the newly-born. The methods of even experienced *accoucheurs* in this matter, he says, often are of as little use as they are alarming in their severity. Squeezing the thorax of a child whose lungs are in a state of atelectasis cannot force the air out, and their relaxation will not draw air into them. Lifting the child up by the arms, then laying it down and compressing its chest, is better, because the weight of the abdominal organs drag down the diaphragm. A more excellent plan, Dr. Edwards informs us, is the artificial inflation of the lungs by an elastic tube, such as a catheter, passed down the nostril with the nose and mouth occluded. Some flatulence is caused by this, but it may be remedied by pressure on the abdomen to some extent. Dr. Edwards prefers to pass the tube right into the larynx, and avoiding the chance of air being forced into the stomach. A No. 6 gum elastic catheter is chosen, containing the stilette, which should be bent about half-an-inch from the distal end. The forefinger is then passed into the pharynx, when the epiglottis will be plainly felt. The oiled catheter is next passed with the bend towards the operator, and as the point passes over the epiglottis slight pressure with the point of the forefinger directs it into larynx. Passing the forefinger and catheter a little further, one can feel that the catheter is separated from the forefinger by the œsophagus and back of the larynx, and know for certain that the catheter has entered the larynx. Inflation should then be safely performed at intervals, followed by pressure on the thorax. Dr. Edwards has found this plan succeed in restoring an infant when every other has failed.

HYDROCELE IN CHILDREN, WITH A REPORT OF CASES.

By Dr. R. W. Lovett. (*Boston Med. and Surg. Rep.*, Dec. 18, 1890.)

There are five possibilities, says the author, in the causation of infantile hydrocele, resulting from five different anatomical conditions, and resulting in as many different varieties of hydrocele, all of which are to be distinguished clinically. These are:—(1) The entire process of the peritoneum may remain widely open from the abdomen to the bottom of the scrotum. This is called by many writers congenital hydrocele. (2) The funicular process of peritoneum alone may remain open, forming a funicular hydrocele, which does not descend to the bottom of the scrotum. (3) The funicular process of the peritoneum may be shut off above and below, but distended with fluid, forming an encysted hydrocele of the cord. (4) Infantile hydrocele is the name applied by some English writers to the condition where the tunica vaginalis and funicular process are distended with fluid, but the internal ring is closed. (5) Common vaginal or scrotal hydrocele is the condition in which, as in adult hydrocele, the fluid-accumulation is confined to the tunica vaginalis. There are few figures bearing upon the frequency of infantile hydrocele. In 247 newborn children, at the Dresden Clinique, Wechselman found thirty-seven cases of hydrocele. The proportion is surprisingly large, and not in accord with the statements of other writers. He explains this, however, by saying that many of the hydroceles were so small that they would have escaped any but the closest observation. The author then refers to thirty cases which had come under his own observation. Of these five were cases of encysted hydrocele of the cord, and the remainder were examples of the ordinary infantile or scrotal hernia. The children were very young when they were first seen, two-thirds of them being in their first four months. Five cases were in the second year, and over that age there were only three cases, all of which were five years old. These latter had been affected with hydrocele only a few weeks, so that they cannot be classified as congenital cases. As to the question of reducibility, Wechselman found that in thirty-seven hydroceles of new-born children there were only fourteen which were reducible,

while twenty-three did not communicate, so far as could be ascertained, with the abdomen. Bryant, in 124 cases of children and adolescents, found only five which communicated; while Mechiori, in 282 similar cases, found only twenty-one which were reducible. With respect to diagnosis, the author says it is of course simple. There is no impulse on crying except in cases where the canal is open, and in these the fluid is easily reduced without the characteristic gurgling of hernia. Where the inguinal canal is closed, it is easy to demonstrate the pyriform shape of the tumour and impulse is absent. There is, of course, translucency. The co-existence of hernia often renders the diagnosis obscure. In encysted hydrocele of the cord a hard, elastic, and non-reducible swelling is felt in the inguinal canal, which varies from the size of the normal testicle to that of a cherry. It is most likely to be confused with a retained testis, but the presence of both testes in the scrotum, disposes of that possibility, and except for the very rare occurrence of tumours of the cord, such a swelling is not to be mistaken for anything else than an encysted hydrocele. With reference to treatment, the author remarks that of his five cases of encysted hydrocele of the cord, one was tapped and cured by one withdrawal of the fluid. The others were treated by counter-irritation and expectancy, and yielded readily in a few days or weeks. None of these cases were congenital. The fifth case was lost sight of after treatment. Of seventeen cases of scrotal hydrocele, ten were tapped with a hypodermic needle or a small trocar, and the sac completely evacuated with every antiseptic precaution. Nine of these cases were cured, while one was in the same condition at the end of two years. This was a case of double reducible hydrocele, widely open into the abdomen, with a slight complicating hernia on one side. The child was tapped several times, and an attempt made to keep the fluid back by the use of a worsted truss. No benefit whatever resulted from the treatment. The cases which were cured were tapped once or several times as occasion demanded, and the sac in most cases refilled temporarily after tapping. Seven cases were treated without tapping, and the patients were kept merely under observation or given some mild counter-irritant to use. Four of these cases recovered, while three did not improve. Of these three cases that did not improve, two were reducible hydroceles communicating freely with the abdomen.

AN ATMOSPHERIC TRACTOR: A NEW INSTRUMENT.

By Dr. P. McCahey. (*Philadelphia Medical and Surgical Reporter*, Nov. 29, 1890.)

In the course of a demonstration before the Philadelphia County Medical Society, Dr. McCahey announced the perfection of a new instrument, after five years of study and experiment. A few weeks before that announcement he learned for the first time that the late Prof. J. Y. Simpson, in 1885, showed a similar device for assisting labour, which he termed an "Air Tractor." That attempt failed partly because of the difficulty of working an air-pump within the vaginal canal, and partly because of defects in the construction of the cup. Dr. McCahey began his study of the subject in 1885, in the hope of finding some means of preventing the annoying retrocession of the head. He is convinced that atmospheric pressure is one of the principal causes, not only of that retrocession, but also of delayed labour. The problem of how to lessen or remove that pressure during labour he believed to be solved by his tractor. He claims that it will be the substitute for the forceps in obstructed and tedious cases. The operation is described as extremely simple. "It consists in applying a cup or concave disc of rubber or other air-tight flexible material to the child's head, so that it will be firmly affixed to the head by atmospheric pressure, and then making traction on the handle of the cup or disc. Any amount of desired power can be obtained by using a cup of sufficient area." The tractor can be applied to any portion of the cranium. It is practically a clamp which can be attached to a large area of the surface, placing the head under the absolute control of the physician, and enabling him to move it about in any direction he may choose. Before applying the tractor, it is necessary to see first that the cervix is sufficiently dilated to allow of its introduction. A hand pressed on the abdomen keeps the head from receding. The tractor is then introduced within the vagina or os, and firmly pressed against the child's head until the handle or vacuum-producer has driven out all the air from within the disc or cup. By grasping the handle, extraction can then be proceeded with. Should the head be dry, as sometimes happens, it must be moistened with water or oil. The tractor may be applied with absolute safety over either the bony part of the skull or over the fontanelles. There is no danger of detaching the scalp; neither is there any fear of infection if ordinary cleanliness be observed. Several forms of tractors have been tried, some with a ball-valve, others with an air-cock that could be attached to an exhaust-pump. Dr. McCahey has used the tractor in five cases, and on each occasion has effected delivery within five minutes. His invention may possibly prove of the utmost value, and fulfil all the golden future that Sir James Simpson at one time evidently anticipated from its use. Any future developments may therefore be looked for with interest by those who are specially interested in the subject of operative midwifery on this side of the Atlantic. Many of our most efficient modern instruments have shown far less promise in their infancy than this resuscitated atmospheric tractor.

ANÆSTHETICS IN RELATION TO MIDWIFERY.

By Dr. W. R. Reid. (*Glasgow Medical Journal*, December, 1890.)

In the course of a discussion on anæsthetics at the Glasgow Medico-Chirurgical Society, Dr. Reid observed that chloroform and ether were equally valuable for securing thorough anæsthesia in operative midwifery. For the administration of chloroform he preferred a single ply of flannel on a small wire frame used with a drop-bottle. In this way a mild degree of anæsthesia could be readily kept up, and deepened in a minute or two if required. In the case of ether he advocated the use of Clover's inhaler as the only safe plan. He had, indeed, substituted ether by the open method when a patient seemed very weak, and no bad result followed. On the only occasion, however, when he used ether during a lengthened operation, the patient was ill for a fortnight afterwards with bronchitis and congestion of the lungs. The ether was administered on a sponge in a waterproof cone. Ether had been given in a recent case by

Clover's inhaler with perfectly satisfactory results. While he always examined the heart before giving an anæsthetic, yet the knowledge that heart-disease existed only made him more anxious to use chloroform or ether, "because in such cases the strain of a severe labour is vastly more dangerous without an anæsthetic than with it. The same holds good with regard to diseases of the kidney." After five-and-twenty years' experience of anæsthetics in midwifery cases, Dr. Reid said he had never seen a fatal issue. Whilst his experience of chloroform had been very large, that with ether had been just as limited. "A lying-in woman is peculiarly fitted for escaping the dangers usually connected with anæsthesia. The left ventricle of the heart is considerably hypertrophied, and so less likely to weaken readily in its action. She is kept in the recumbent position, and so, to that extent, defended from syncope. The action of the heart is aided by the alternate relaxation and contraction of the uterus, and, lastly, the anæsthesia tends to produce anæmia of the brain, whereas the labour-pains give rise to an engorgement of that organ. These causes, taken together, seem to me to account for the great rarity of fatal results in connection with obstetrical anæsthesia." He is inclined to believe there is some truth in the assertion that chloroform may kill a lying-in woman by inducing post-partum hæmorrhage. That danger, however, can be quite set aside by the use of the subcutaneous injection of ergotin and by manual compression of the uterus. He has good reason for believing that chloroform has no danger to the fœtus. He admits it is hard to explain why, with chloroform circulating in the blood of the mother, the fœtus should not run a good deal of risk. He comes to the following conclusions :—(1) "In severe labour and the ordinary operations I am content to use chloroform, in view of its convenience and safety in those circumstances. (2) In long and severe operations, especially where there is much loss of blood, I prefer ether, given by means of Clover's inhaler. This involves more trouble, but its probable greater safety ought to turn the balance in its favour. (3) I hold strongly the belief that while it is advisable to have two medical men present when an anæsthetic is given, it would be wrong to enforce this by law."

Diseases of the Nervous System.

PERIPHERAL NEURITIS IN PARALYTIC DEMENTIA, AND THE COMBINATION OF THE LATTER WITH IMBECILITY.

By Prof. Pick. (*Berliner klin. Wochenschr.* No. 47, 1890.)

This occurrence was first substantiated by Bevan Lewis (West Riding Asylum Report, 1875), but subsequent notices in medical literature are very scanty. Dejerine found inflammatory alterations in peripheral nerves (*Arch. de Physiol.*, 1876, p. 317); Simon and Mendel found nothing; and Bianchi (*Neurolog. Centralb.*, 1888, p. 452), mentions extensive degenerations as a consequence of paralysis of peripheral nerves, chiefly motor. The combination of dementia paralytica with imbecility is spoken of by Morel (*Traité*, 1860), Christian, Höstermann, Forille, Lighicelli, and Arnaud. The following case bears on this subject. A man, aged twenty-four, a labourer's son, was taken into hospital, April 30th, 1888. Father died of tuberculosis, mother was in an asylum when patient was born, and died there. The patient had rickets in children, and was manifestly imbecile. Two years previously he had occasional left-sided convulsions, also magnificent ideas of himself, and stole from a basket in the street. He remembered the theft, but nothing else. He was small, but well nourished; the left pupil was wider than the right, both reacted well. The teeth were infantile, the incisors eroded; speech childish. Skin reflexes all normal; no coarse derangement of sensibility. He was violent at times; after a few months he became tranquil and apathetic. On innervation the mouth was contracted to the right, and tremor of the upper lip was noted especially on the left side. Knee-jerks increased, ankle-clonus evident on both sides, especially the left. Later on there was lingual tremor, and pupillary rigidity. In November, a paralytic attack, with loss of consciousness. The speech had previously become more difficult. The attack left the right arm paretic, there were slight movements of the fingers. In February, 1889, an epileptiform attack. The optic papillæ showed degeneration. His ideas of grandeur persisted; he had diamond teeth, and a silver stomach. He asserted that he had been treated in hospital for syphilis some years before; this could not be verified. In May, distinct peroneal paralysis was found in the now bed-ridden patient, with typical position of the foot (Charcot's "stepper"); no distinct sensory or trophic derangements, hardly any reaction to the faradic current; the constant current showed quantitative and qualitative reaction of degeneration. By September, the normal condition was restored. The paralysis meanwhile advanced steadily, there were occasional epileptiform attacks with lateral homonymous hemianopsia, paralytic speech, diarrhœa, bladder-paralysis, and spastic gait. He died July 21st, 1890. The autopsy revealed typical progressive paralysis, diffused œdema of the white substance of the brain, especially in the convexity, decided atrophy of central substance, great dilatation of the lateral ventricles, and thickening of the ependyma. Progressive paralysis here developed at a very early age; it is not easy to account for, and was evidently a distinct complication of the imbecility. But the interest of the case lies in the paralysis of peripheral nerves in the course of the general paralysis. This was no accidental coincidence, as the next case shows, though the progressive paralysis was less expressed. A woman, aged thirty-eight, had for two years occasional pains on both sides of the body, headache, paræsthesiæ, an attack of loss of consciousness apparently paralytic in character, hallucinations, excitability going on to violence, absurd ideas of grandeur and wealth, hypochondriasis, insidious onset of speech disturbance, and other motor derangements indicating paralysis, and progress in lowering of the intelligence. This case was evidently one of progressive paralysis, and here also there was peroneal paralysis, no doubt pathogenetically related to the cerebro-spinal affection. The author concludes that progressive paralysis is in the same relation as tabes dorsalis to peripheral paralysis, and awaits further reports from others.

Pathology.

THE CHARACTERISTIC ORGANISM IN CANCER.

By Dr. William Russell. (*The Journal of Comparative Pathology*, December, 1890.)

Dr. William Russell, in reading a paper on the

pathology of cancer before the Pathological Society of London last month, announced that he believed he had identified a special cancer-organism after the work of some years. By tracing the mode of growth of cancer, Dr. Russell says that he hoped to obtain an insight into the factors determining the departure of the tissues from the normal. He had found appearances which could not be fitted in with the normal modes of cell-growth and nuclear proliferation. One case was so striking that he determined by every possible combination of staining, to differentiate some of these structures. The following method proved successful :—(1) Salacite solution of fuschine in two per cent. of carbolic acid in water; (2) One per cent. solution of iodide green (Grüblers) in two per cent. carbolic acid in water. Place section in water; stain with fuschine for ten minutes or longer; wash for a few minutes in water, also immerse in alcohol for half-a-minute. Then place the specimen in a solution of iodine green. Dehydrate with alcohol, and mount in balsam. This method revealed certain structures stained a brilliant purplish red, while the tissues stained green. Subsequently like bodies, called by Dr. Russell "Fuschine bodies," were discovered in other specimens. Verification experiments were also performed on similar structures, but without the characteristic result. They are not found in sarcomatous or simple tumours. Forty-five cases of cancer were examined. In all but two, fuschine bodies were found. They occur in groups of two up to twenty, showing a clear space round them, and are perfectly spherical. The largest are half the size of a red blood-corpuscle. They appear perfectly homogeneous, and to be held together by a fine cementing substance which stains but slightly. Their discoverer at present considers these bodies to be absolutely peculiar to carcinomatous growths or the immediate environment of the same. In discussing the nature of fuschine bodies, Dr. Russell raises the question as to whether they are animal or vegetable in nature. Previous observers in this field, such as Albarran, Darier, Thoma, Wickam, and Sjöbring claim to have discovered in cancer what they suppose to be an organism. All of them, with one exception, describe this organism as belonging to the protozoa. In further elucidation of the subject, the exact formation and conduct of the protozoa are there discussed, more particularly with reference to those parasites occurring in vertebrates, viz., the psorospermiar. They are described as having a capsule, hence differing from the fuschine bodies. Their internal structure is also different. By Gram's means of staining, the spores may be seen as they appear in the leucocytes of the infiltrated area. The effect of the entrance is that the cell-protoplasm becomes clearer, and the chromogenetic granules are driven to the circumference of the cell. They, in fact, disappear, with the result that the small fuschine body is surrounded by a clear space. Much the same classification occurs when a spore enters an epithelial cell. Dr. Russell declares that he has no doubt whatever that the fuschine body belongs to the sprouting fungi (sprosspilze of Nügeli). This cannot be demonstrated in all cases owing to susceptibility to the fuschine stain, varying with the growth of the spore. Finally we are reminded that this class of fungus includes the yeast fungus, and should the observation already stated be ratified we have found an organism which from its very nature implies the production of a ferment-product.

Dermatology.

ON ADENOMA OF THE SWEAT GLANDS.

By Dr. E. C. Perry.

(*Intern. Atlas of Rare Diseases of the Skin*, Heft ii. No. 9; *Monats. f. Prakt. Derm.*, vol. xi. No. 10.)

The author gives particulars regarding a case of adenoma of the sweat-glands. The patient was a woman, aged thirty-one, who had been affected with the disease since her tenth year. Of late the affection had become greatly aggravated both in the number and size of the individual tumours. Seborrhœa was not present. Perspiration from the face and head had lessened. There were situated on the forehead, root of the nose, the naso-labial furrow, and on the chin, masses of firm white papules of the size of a millet-seed to a pea, which were painless and did not ulcerate. No comedones or telangiectases were observed. When the part was pricked some serum exuded. Under the skin, in some of the papules, black points were visible. Microscopical examination proved that the ramifications of the sweat-glands were greatly enlarged and increased, and there was thinning of the superficial epidermis. A great deal of pigment was observed in many of the gland-cells which microscopical examination showed to consist of the black points. There were no inflammatory appearances. The swellings, after having been pricked with a needle, were removed by the scissors or scalpel, a perfect cure following.

ON ELECTROLYSIS IN THE TREATMENT OF LUPUS VULGARIS.

By Dr. Jackson. (*Journ. of Cut. and Genito-Urin. Dis.*, Nov. 1890.)

Dr. Jackson stated at the recent meeting of the American Dermatological Association that in treating cases of lupus vulgaris by electrolysis he employed a strength of seven milliampères, which was allowed to pass seven minutes. The treatment is comparatively painless. There is not the slightest loss of blood, and the part looks no worse after the operation than before. The treatment goes to the root of the disease, to the bottom of the tubercle, with far more exactness and less damage to the surrounding skin than any other caustic or surgical method. The scar left is smooth and not unsightly, and the result obtained is as good, if not better, than that by any previous method. Dr. Allen stated he had been much pleased with multiple linear scarification, followed by emplastrum hydrargyri. Dr. Hardaway stated that in lupus erythematosus he had used electrolysis with advantage. Dr. Corlett stated that he had used an ordinary needle in the treatment of lupus vulgaris by electrolysis, and had found the method painful and slow. Dr. White stated that in some forms of lupus he uses corrosive sublimate and salicylic acid with success, and that he can employ these remedies over a large ulcerative surface where no other remedies can be used so well. The salicylic acid is mixed with vaseline or dissolved in castor-oil, spread on lint, applied on a small or large surface over-night. Corrosive sublimate he uses in the form of an ointment over small areas, generally at night. Two grains to the ounce is as strong as he ever uses near the mouth, as it is liable to produce a mild grade of salivation.

ON TRICOPHYTON TONSURANS ATTACKING THE NAILS.

By Dr. Fournier. (*Journ. des Maladies Cutanées et Syphilitiques*, 1889; *Brit. Journ. of Derm.*, Dec. 1890.)

The author states that the parasitic lesions of nails are cured with difficulty. The method of treatment consists in the immediate or gradual removal of the affected parts, either by friction or by using different topical applications, such as creosotes, acetic acid, corrosive sublimate, iodine tincture, resorcin. It is by the use of these two last applications, combined with soaking the nail, and subsequently protecting it by gutta percha tissue, that Dr. Fournier has obtained the best results.

ON CUTANEOUS DETERMINATION OF BLENORRHAGIA.

By M. Perrin. (*Annales de Derm. et de Syph.*, Nov. 1890.)

The author considers that in the great majority of cases blenorrhagia is a parasitic affection, and may present local determinations (orchitis, cystitis, prostatis, &c.), and remote determinations (rheumatism, eruptions, &c.). Cutaneous determination should be ranged amongst the exceptional localisations of the disease. These eruptions are polymorphous, scarlatiniform, or rubeoliform. They have no specific character, and no constant or exclusive objective characters, to distinguish them from erythemas resulting from the influence of other external or internal causes. The pathogenesis of erythemas supervening in the course of blenorrhagia is complex. Some are simple coincidences, and are due to sometimes common causes, which must be carefully sought. Others proceed directly either from blenorrhagia or from balsams. Blenorrhagia may, in fact, accompany erythemas, even without medical treatment. At the present time it can only be said that these erythemas are due to *gonohæmia*. They are occasionally under the dependence of a secondary infection to which blenorrhagia has paved the way or prepared the soil. Usually they are angio-neurotic erythemas, the production of which is due to the action of blenorrhagia on the vaso-motor system. Balsams, and in particular copaiba, produce most usually gastro-intestinal troubles, but they may produce erythematous medicinal rashes. They are not, however, directly pathogenic. For their production the action of blenorrhagia would appear to be required.

CASE OF SPORADIC CRETINISM.

By Dr. Thomson. (*Med. Chir. Soc. of Edin.*, April, 1890; *Edin. Med. Journ.*, Sept. 1890.)

Dr. Thomson presented a case of sporadic cretinism developed in a female child of nineteen months, in which the chief interest was centred in the œdematous, bordering on myxœdematous, condition of the whole right side of the body. The face, however, was slightly œdematous on the left side. There was nothing peculiar to be noted in the hereditary antecedents. The abdomen was large and prominent. The impossibility of feeling the thyroid-gland, the enormous accumulation of adipose tissue in the axillary and sub-clavicular hollows, the weakness and strangeness of the mental condition, were, with the œdema, the principal characters which deserve to be noted.

ON HERPES ZOSTER IN A CHILD FOUR DAYS OLD.

By Dr. Lomer. (*Centralblatt f. Gynaekologie*, 1889; *Annales de Derm. et de Syph.*, November, 1890.)

A child presented on the fourth day after birth herpes zoster, which extended from the costal border to the upper third of the thigh and was limited entirely to the right side. During the following days new vesicles appeared, and soon the skin, throughout the length of the region indicated, was invaded by a typical herpes. The vesicles also occupied the dorsal surface of the penis, extending as far as the median line. The child was quite quiet, and did not appear to experience any pain. Towards the tenth day new eruptions were produced, and it was only about three weeks after birth that all the vesicles were transformed into crusts. This is the first case in which herpes zoster has appeared at so early an age. From its seat, the affection may be designated *lumbo-abdomino-femoral*.

ON LYMPHANGIOMA CIRCUMSCRIPTUM.

By Dr. Allan Jamieson. (*Med. Chir. Soc. of Edinb.*, April, 1890; *Edinb. Med. Jour.*, September, 1890.)

The author showed a child, eight years old, whose right shoulder presented a small lesion of a warty appearance, streaked with dilated capillaries and covered with groups of confluent vesicles. The latter resemble the vesicles of zona, but their wall is much firmer and their base more deeply situated. They contain a clear alkaline liquid, some lymph cells, and, according to the author, are in relationship with the lymphatic system. From earliest infancy groups of vesicles have appeared in this child, and have succeeded each other without leaving a trace after their disappearance. In medical literature only ten cases of this affection have been noted, four of which are in the "International Atlas of Rare Diseases of the Skin." In the treatment of this case the author proposes to use the salicylic and creosote plasters of Unna.

CASE OF PUNCTIFORM NÆVUS.

By Dr. Allan Jamieson. (*Med. Chir. Soc. of Edin.*, April, 1890; *Edin. Med. Journ.*, Sept., 1890.)

Dr. Allan Jamieson gives the particulars of a case of punctiform nævus. The patient, aged eighteen, is tall and enjoys good health. Five or six years ago, after having performed some exercises with the fixed bar, he noticed that he had a small red spot on the right forearm near the elbow. The spots have increased in number till within the last two years. The eruption is now disseminated with a certain regularity over the deltoic region, the posterior surface of the arm, the two surfaces of the forearm, the wrist, back of the hand, as well as the fifth right intercostal space. These spots are formed of a large number of dark red or bright red small points. Sometimes, instead of these spots, there are very fine quite small lines between which the skin is of a very pale rose colour. These red points are grouped extremely superficially

and seem to have no relation to the hair follicles. The spots slightly pale on pressure, but never entirely disappear even under the refrigerating action of ether spray. Sections of fragments examined by Dr. Edington have shown blood-stasis at the summit of some of the papillæ, and a rather intense exaggeration of some prolongations of the Malpighian layer.

Laryngology and Otology.

THE TREATMENT OF RELAXATION OF THE TYMPANIC MEMBRANE BY COLLODION.

By M. Lannois. (*Lyon Médical*, Dec. 7, 1890.)

M. Lannois describes a case in which there was general relaxation of the membrane of the left ear, more marked in the anterior segment. The Eustachian tube was permeable, and insufflation of air, by the catheter, produced marked improvement in hearing, but at the end of a few hours the hearing fell back to its original condition. The patient had been treated by several specialists, but without permanent improvement. Following the plan of Keown and Keller, M. Lannois, after preliminary catheterisation, poured collodion into the meatus, and removed the surplus collodion with absorbent cotton wool. A second catheterisation was then performed. The result was remarkable. The improvement in the hearing was maintained for three and a-half months. By this time the layer of collodion had become detached at the edges, and by dropping in a little ether the collodion was easily removed, in the form of a finger of a glove, on the end of which one could see the impression of the membrane in all its details. M. Lannois had employed the same treatment on two other patients, and in one of these he had obtained an equally good result.

THE EARLY FORMS OF LARYNGEAL TUBERCULOSIS.

By Dr. A. Sokolowski. (*Archives de Laryngologie et Rhinologie*, December, 1890.)

In this paper Dr. Alfred Sokolowski gives a concise description of the different forms which tuberculosis may assume in the larynx, a knowledge of which will at times enable the observer to recognise the nature of the disease before definite physical signs are present in the lungs. Although true primary tuberculosis of the larynx is excessively rare, cases are not very uncommon where tuberculous lesions are present in the larynx, and where neither the general condition of the patients nor physical exploration of the lungs will aid us in the diagnosis. Moreover, a negative result from examination of the sputa for bacilli cannot exclude tubercle. The following are the forms in which the laryngeal lesions may present themselves:—(1) The appearance may be that of a simple chronic laryngitis. Very often, in this case, the lesion may be localised on one side; one cord or ventricular band may be thickened. Often a diminution of mobility may be observed, from the commencement, in the true cords. Resistance to anti-catarrhal medication is also an element in the diagnosis. (2) Sometimes the initial laryngeal lesion shows itself under the form of ulceration of the true cords, of greater or less extent, and especially of the posterior part in the vicinity of the vocal processes. If syphilis is excluded, these ulcerations in the immense majority of cases may be regarded as tuberculous. Nevertheless, the author is in agreement with those who admit the existence of catarrhal ulcerations. They are no doubt very rare, but they present no sufficient characteristics by which they can be differentiated with certainty from tuberculous ulceration by a laryngoscopical examination. As a rule, however, they heal rapidly under simple anti-catarrhal treatment. (3) A rare form of the initial lesion presented by tuberculosis of the larynx is a polypoid growth from one or other vocal cord. (4) Among the most frequent forms of early laryngeal tuberculosis are the lesions localised on the posterior wall of the larynx, and more particularly on the inter-arytenoid fold. These lesions have the aspect of fungous elevations, sprouting from the posterior wall, reminding one of a cock's comb, and best seen on deep inspiration. The initial lesion on the posterior wall may also consist of a uniform thickening of the whole of the anterior surface of the posterior wall. It must be borne in mind that chronic laryngeal catarrh of non-tuberculous origin sometimes assumes a somewhat similar appearance; there being a tendency to proliferation, ending in hypertrophy of the mucous and submucous layers, the so-called *pachydermia laryngis* of Virchow. (5) Sometimes, in the course of an already pronounced tuberculosis of the larynx, a complete immobility of one-half of the larynx is observed. This condition may be the result of suppression of the movements of the crico-arytenoid articulation, due to perichondritis, or it may arise from compression of the recurrent nerve in its course in the chest, mostly of the right recurrent, owing to its proximity with the apex of the lung. The left nerve may also be compressed by tuberculous lymphatic glands in the chest. In conclusion, the author insists on the fact that a right diagnosis should not rest alone upon the laryngoscopic examination, but should be founded upon a careful and minute analysis of all the points in the history and condition of the patient, which a careful examination may reveal.

Ophthalmology.

THE ANTISEPTIC VALUE OF THE ANILINE DYES IN OCULAR AFFECTIONS.

By Drs. Valude and Vignal. (*Archiv. d'Ophthal.* 435, 1890.)

In a recent *mémoire* Stilling called attention to the use of these substances in ocular affections, stating that they possess great antiseptic power, and that their efficacy is further increased by their great diffusibility. The results published by him were so good that others were not slow in trying the remedy, but so far his conclusions have not been confirmed. Professors Carl, of Frankfort, and Graeffe, of Halle, in particular, have published views concerning the efficacy of these substances which are distinctly opposed to those of Stilling. The authors of this paper have experimented in two directions; firstly, with the view of comparing the antiseptic properties of these substances with those of well-known antiseptics such as perchloride of mercury; and secondly, to ascertain their clinical effects. Under the term "pyoctanin" are included both the violet and the yellow aniline substances. It was asserted that the

microbe-destroying power of these closely approached that possessed by the perchloride, and that they were especially efficacious against the staphylococcus pyogenus aureus. The authors found that the violet pyoctanin was more powerful than the yellow, but that it was far inferior to perchloride of mercury as a germicide. The earlier experiments consisted in introducing different quantities of pyoctanin into sterilised beef-tea, and then inoculating one lot with a drop of a culture of the streptococcus pyogenus, another with the staphylococcus aureus, and a third with the mixture of bacteria that developed in an infusion of meat exposed to the air. In order to arrest the development of the microbes, it was necessary to use 0·35 grammes of yellow and violet pyoctanin in a litre, while of perchloride 0·015 is sufficient. If smaller quantities were employed the growth was retarded, but not stopped, and the bacteria formed a coloured deposit, showing that staining of the bacteria was no proof of their death. In a second series of experiments, the pyoctanin was introduced into an infusion in which the development of bacteria had already commenced, but was not sufficiently advanced to prevent changes in the rate of growth being appreciated. To arrest, and not simply to retard, the development, it was found necessary to use 0·47 grammes of the violet, and 1·25 of the yellow, pyoctanin to a litre, while 0·05 of perchloride sufficed. Experiments were next made to ascertain the time required in killing the streptococcus pyogenus. It was found that with a solution of violet pyoctanin, 1 in 1000, seventy-five minutes were required for the streptococcus pyogenus, ninety minutes for the staphylococcus aureus, and two hours for the third solution containing the mixed bacteria. A solution of perchloride of the same strength only required two minutes, while for a solution of 1 to 400 seven to ten minutes sufficed. In order to obtain conditions more analogous to those under which the micro-organisms are found in the human subject, various albuminous solutions—mucus, lymph, blood-serum, etc.—were mixed with the infusion, but the results obtained did not materially differ from those just described. From these results the authors conclude that "the aniline dyes included by M. Stilling under the name pyoctanin are very weak antiseptics. Solutions of 1—1000 possess an intense colouring power, which still further limits their range of usefulness; moreover, they exert a toxic effect, which appears at first to have been recognised by Stilling, for all the rabbits died in which he had introduced more than a quarter of a milligramme for every 100 grammes of their body weight." The authors also experimented with three other colouring substances—namely, two methyl-violets, the one crystallised and the other amorphous, and an "auramine." Their action was identical with the aniline substances, except that they were slightly more feeble, 1·2 grammes being equivalent to 1 gramme of these. The clinical results were not more favourable than those obtained by Carl and Graefe. The yellow pyoctanin, 1 in 1000, was found utterly inefficient in all cases of ophthalmia neonatorum in which it was used; indeed, it generally appeared to increase the secretion. The violet was also found useless in cases of catarrhal ophthalmia. No effect was produced in cases of scrofulous ulcers of the cornea, although in similar cases Stilling saw rapid healing. The only case in which the authors obtained any benefit from the use of pyoctanin was that of a man, aged fifty, with a hypopion ulcer, which had previously been treated without benefit with eserine and iodoform. The improvement in this case should, the authors consider, entitle pyoctanin to a further trial, and they suggest that its great diffusibility may cause it to be carried easily into the corneal spaces, and, although more feeble as an antiseptic than perchloride, it may thus be more effectual in certain cases.

A TREATMENT FOR GRANULAR CONJUNCTIVITIS.

By Dr. Giraud Teulon. (*Revue Générale de Clinique et de Thérapeutique*, November 26, 1890.)

The treatment adopted by Giraud Teulon for a case of obstinate granular conjunctivitis with acute photophobia is as follows:—(1) Morning and evening instil atropine drops (half per cent.) into the eyes. (2) Each evening place a small quantity of the following ointment into the eye:—℞ Calomel, pure and finely powdered, two parts; vaseline, one part. ṃ ft. ung. (3) During the day use fomentations of decoction of camomile at body temperature, keeping them applied as long as possible. (4) Cover the eye with a pad of absorbent cotton wool. (5) As general treatment, use cod-liver oil, syr. ferri iodidi, tonics, etc.

GLIOMA OF THE RETINA.

By Dr. Lagrange. (*Archiv. d'Ophthal.* 1890, 385.)

The author believes that the prognosis in glioma, if enucleation be performed early, is not so unfavourable as it is usually held to be, and that so far from recurrence of the disease being almost universal, a very large number of cases have been under observation for many years without any recurrence having taken place. Indeed he believes that in this respect it compares favourably with sarcoma of the choroid. The latter tissue indeed, from its great vascularity and intimate connection with several lymphatic spaces, presents great facilities for the propagation of the disease. In glioma of the retina, on the other hand, the growth is for some time limited by the lamina vitrea of the choroid, and, although its growth into the vitreous is rapid, it is for a long time kept from extending along the optic nerve by the resistance offered by the lamina cribosa. The author's own case was that of a boy aged seven. The appearance was that of a typical glioma. Operation was at first refused, but consented to on glaucomatous symptoms supervening. Nearly two years later, there was no sign of recurrence. The growth was flattened, and occupied the lower and outer part of the retina extending two millimètres from the disc margin to about three millimètres from the ciliary processes. The choroid and the optic nerve were healthy. The lamina vitrea of the former was much thickened. After quoting the views of various authorities, the author gives a list of nineteen cases in which a long time had elapsed after enucleation without any recurrence taking place. A case of Sinclair's is also mentioned, of glioma in both eyes; both were enucleated, and the child was well six years later. This, by the way, supports the generally accepted view that the growths in the two eyes are independent, and not the result of extension, from one eye to the other, or to both eyes from a common source. The author sums up his conclusions as follows:—(1) Glioma of the retina sometimes runs a relatively benign course, re-

maining for a long time confined within the eye. (2) This relative benignity may be explained by the thickening which the lamina vitrea and the lamina cribosa undergo, the suprachoroidal space and the tissue of the optic nerve being thus protected from cellular infiltration. (3) The prognosis is not so grave as it is stated to be by the older authorities. (4) If enucleation be performed before the tunics are perforated, a good result may be expected in more than twenty per cent. of the cases. (5) There are two varieties of glioma, the more malignant, which is often mistaken for unpigmented sarcoma of the choroid, and the less malignant which is curable by early operation.

Toxicology & Medical Jurisprudence.

POISONING BY SULPHONAL.

By Dr. F. H. Dillingham. (*Medical Record*, Dec. 13, 1890.)

Much has been said about the safety of sulphonal, and of its having no effect on the heart. Dr. F. H. Dillingham, however, reports a case where an elderly lady took ninety grains by mistake and alarming symptoms followed:—Some powders were ordered for insomnia, each containing thirty grains of sulphonal, with directions to take *one* in the evening. At about 3 a.m. she was found in a semi-comatose condition, and rapidly passed into a state of stupor, with stertorous breathing. Her radial pulse was almost imperceptible, and extremities cold. Under treatment, her breathing improved, and her pulse became a little slower and stronger. Inco-ordination of all the muscles was extremely well marked. Her face was drawn slightly to the right side, and there was ptosis of the right eyelid. Pupils were normal. She would doze for a few minutes and then open her eyes, but not recognize anyone. Respirations were 24, pulse 130, and temperature 98° F. Her mouth was parched and tongue dry, and when she put it out, it deviated to the right. She had a constant desire to urinate, but passed only about a teaspoonful at a time. The urine was normal. When once the drowsiness passed off, the patient became singularly wakeful, but it was ten days before the ptosis, paralysis of the face, and inco-ordination of the muscles entirely disappeared. The paralysis of the bladder and bowels continued for two weeks, and then they began gradually to resume their normal functions. The writer concludes by remarking that it does not seem as though a drug which had proved fatal in dogs, and may cause such alarming symptoms, can be absolutely safe, even in small doses.

POISONING BY HYDROGEN GAS USED FOR INFLATING BALLOONS.

By Dr. P. Oulmont. (*La Méd. Moderne*, Dec. 4, 1890.)

The author has been unable to find in toxicological literature any record of similar cases, and deems it advisable to call attention to a danger run by aëronauts which has not hitherto apparently been dwelt upon. The first case was that of a man, aged twenty-two, who made an ascent in a balloon on the evening of June 29, 1890. He descended again in half-an-hour, and, about an hour and a-half later, he felt ill, vomited, and lost consciousness. A doctor, who was called to see him on July 2nd, found him in a state of great prostration, and presenting a typhoid aspect. He had vomited incessantly since the onset of the illness; he suffered from violent headache, and his face was cyanosed. The mucous membranes and soft palate were of a deep yellow colour. Pulse thready. He had passed no urine since the onset of his illness. About an ounce of dark, bloody urine was drawn off. Bowels constipated. Enemata brought away dark, blood-stained evacuations. The symptoms continued much the same till July 5, when he died. Enquiry proved that this man's head was close to the escape-valve of the balloon, and that during the voyage he had inspired a good deal of gas. The second case was that of a man, aged twenty-six years, who had assisted in securing the balloon, referred to in the first case, after its descent. He got caught beneath the balloon, and for a time inhaled the gas which was escaping freely from the valve. The gas had a strong smell, which made him feel ill, but he started to return home on foot. He was obliged, however, to rest several times, feeling a great sense of fatigue and a difficulty of breathing. From this time on till the 7th of July, when he died, he suffered from marked dyspnœa and prostration. There was almost complete suppression of urine. A little bloody urine was passed, and the stools contained blood. The skin presented a pale yellow tint. The conjunctivæ were yellow. The pulse was thready, and there was some delirium. An autopsy was obtained in this case, and the principal lesions were found in the kidneys, which were acutely inflamed and studded with ecchymoses. As to the nature of the gas used in the balloon, M. Oulmont ascertained that the balloon was not filled with ordinary coal-gas, but with hydrogen which was manufactured by the action of hydrochloric acid on zinc. Now, the zinc of commerce is known to contain lead and small quantities of arsenic and sulphur. Pure zinc is indeed inconvenient from an industrial point of view, for it retains on its surface the minute bubbles of hydrogen, which after a time prevent the contact of the acid with the metal. The gas, therefore, when first prepared, contains traces of sulphuretted hydrogen and of arseniuretted hydrogen. The latter gas is known to be extremely poisonous. The chemist Gehlen met with his death through merely smelling an apparatus in which he was making this gas. Sulphuretted hydrogen, though toxic, is much less so. According to Parent-Duchâtelet, a man can breathe without danger an atmosphere containing one per cent. of sulphuretted hydrogen. On the other hand, pure hydrogen gas is not poisonous. It may be therefore concluded that the death of these patients was caused by the arseniuretted hydrogen present in the gas. It follows that careful purification of the hydrogen gas employed to inflate balloons is desirable

THE EFFECT OF EXPLOSION PRODUCTS ON THE SYSTEM.

By Dr. Thomas Darlington. (*Medical Record*, Dec. 13, 1890.)

As little or nothing has previously been written on this subject, Dr. Thomas Darlington's remarks may be received with some interest, being the result of five years' experience in mining districts, where explosives, such as dynamite and nitro-glycerine are in constant use. Two classes of cases were observed:—First, where a considerable quantity of the products was inhaled at one time—acute cases; secondly,

where the men constantly breathed a small amount, —chronic cases. The acute cases varied according to the amount inhaled. In cases where a small amount is inhaled, the men being then placed beyond its influence, the results are as follows:—Giddiness, a trembling sensation, flushing of the face, succeeded sometimes by pallor, frequently nausea, sometimes vomiting, with throbbing through the temples and fulness in the head, as if it would burst, followed by an intense headache characteristic of poisoning by nitrites—similar to that of nitrite of amyl—only not so violent, but more persistent, frequently lasting forty-eight hours. The heart's action is increased, and the pulse full and round, though somewhat compressible. Where the toxic effect is considerable, the giddiness is followed immediately by unconsciousness, the patient presenting appearances of asphyxia. The coma soon passes off, and is succeeded by drowsiness, languor, cold sweats, intermittent pulse, and often nausea and vomiting. Frequently there is hiccough and severe headache. Such are the symptoms of acute poisoning. Nearly all these cases seem to recover. Two fatal cases are noted, where death was due to paralysis of respiration. Chronic cases present four prominent symptoms– headache, cough, indigestion, and disturbances of the nervous system, but the first three are in reality the outcome of the fourth. Rapid improvement takes place if the men affected with it get to work on top. Attention is drawn to the fact that, while the products of dynamite explosions are water, carbonic acid gas, nitrogen di-oxide, none of the symptoms described, save asphyxia, are those which might be expected of those compounds. Cases, however, are cited where small portions of dynamite having been swallowed accidentally, the toxic symptoms which followed corresponded with those above enumerated, as due to the explosion-products. From this Dr. Darlington infers that suspended in the air, after an explosion, there are certain particles of the explosive material in a volatile state, which are inhaled and subsequently absorbed in the lung. With regard to treatment, as a preventitive, the use of such apparatus or machinery, whether by blowing or by sucking, that will rapidly clear the tunnel or cavity from noxious gases or fumes, is recommended. Of course, such measures as are generally used in cases of asphyxia are of service. But in addition to these, the use of cold to the head, and of atropine, ergotine, or other vaso-motor stimulants, administered subcutaneously, are of necessity indicated and exceedingly efficacious. Special stress is laid on the use of ammonia, both as an inhalator and as an internal remedy, and it is suggested that workmen in mines should invariably carry with them small vials of this drug.

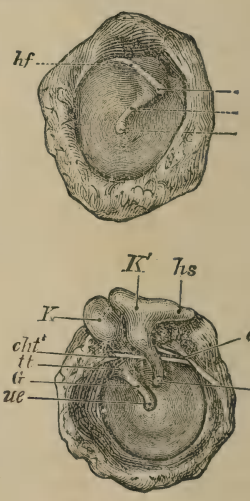
Reviews.

A Text-Book of the Diseases of the Ear. By Dr. Joseph Gruber, Professor of Otology in the Imperial-Royal University of Vienna, &c. Translated and edited by Edward Law, M.D. (Ed.) and Coleman Jewell, M.B. (Lond). London. H. K. Lewis, 136, Gower Street, W.C.

The development of special practice is nowhere better exemplified than in the literature in each special department, which increases in bulk, and, we may add, in excellence as years go by. It is not many years since otology was considered as a minor appurtenance of laryngology scarce worthy of any special study. The treatment of diseases of the ear was restricted to the removal, by hook-or-by-crook, of obvious outgrowths and of foreign bodies that formed or had got into the canal. In fact, a button-hook or a hairpin, and a syringe of respectable dimensions, comprised the armamentarium of the medical man who, usually much to his disgust, found himself face to face with a patient complaining of ear trouble. *Nous avons changé tout cela!* Now-a-days volume after volume issues from the press, devoted to the anatomy and physiology of particular organs and the diagnosis and treatment of their respective affections. Nevertheless the volume before us, impressive in dimensions, beautifully printed, and not less beautifully and copiously illustrated, comes upon one as a surprise. There is evidently more in aural pathology than is usually believed, and it lends itself to the artist's efforts almost as well as its sister branches, laryngology and ophthalmology.

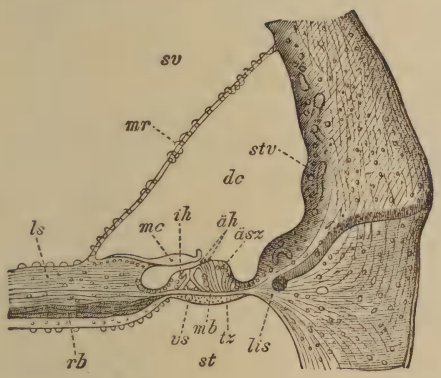
For years Professor Gruber has been *facile princeps* in matters relating to diseases of the organ of hearing, and his researches have been liberally drawn upon all over the world by aspirant authors in search of material wherewith to write a book on their speciality. This fact amply justifies the appearance of an English edition of a text-book of recognised merit. The coloured plates, which strike the reader's attention on opening the book, surpass anything of the kind we have yet seen, and would alone make the volume an acquisition both for the specialist and for the general practitioner who aspires to be a good "all round" man.

The work commences with a carefully written chapter on the anatomy of the region with which we have to deal; and Professor Gruber, in the preface to his second edition, insists upon the fact that successful study in this field of work is impossible without this preliminary knowledge. His explanations are elucidated by a series of woodcuts, of which two of the outer and inner aspects of the membrane tympani are good examples.



The description of the internal portion of the ear is very fully gone into, and its histology has furnished the draughtsman with a large field of operations. The drawings are very clear, and will doubtless prove very useful to future writers of treatises on the histology of the organ of special sense.

(Fenestra Rotunda, × 50.)

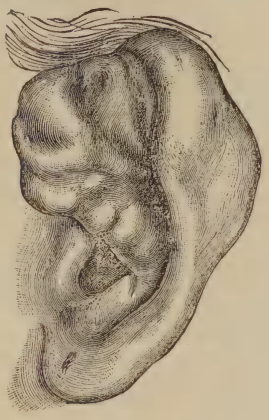


(Section of ductus, m. cochlearis × 50.)

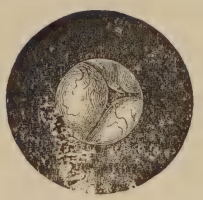
Considered as a monograph on the anatomy of the ear, this chapter is probably the most complete and exhaustive yet published.

We are then initiated into the method of carrying out the examination of the patient, and pass on to the consideration of developmental abnormalities of the auricle, of which several striking examples (and drawings) are given, as, for example, the shrivelled diminutive auricle depicted in the following woodcut :—

Fortunately art has been enabled to step in and remedy to a great extent Nature's shortcomings. By recourse to plastic operations, or the use of artificial appendages, or both, the distressing consequences of these congenital deformities may be obviated. Next to the inherited deformities come those which have been acquired, and these are numerous, and, from an æsthetic point of view, important. The latter class are largely drawn from the othœmatomata (extravasations of blood into the auricle), which may be spontaneous or the result of injury. The accompanying drawing illustrates a traumatic othœmatoma after natural recovery (?)—



The aural surgeon, however, can improve on this result, and restore the natural contour of this very prominent appendage, but the diagnosis is a matter of importance. From the affections of the more resisting



(Exostosis in auditory canal).

parts of the external ear we pass to inflammatory conditions of the soft structures of the external auditory canal, but these are neither as frequent nor as pressing as structures further in, more particularly of the tympanic membrane. A reference to the coloured plates will suffice to show the diagnostic scope and bearing of the appearance presented by the membrane which is undergoing, or is affected by, morbid changes, either of its own structure or of the cavity which it limits externally.

The same thoroughness and detail characterise the chapters on diseases of the middle and internal ear, many of which are of interest on account of their diagnostic value in respect of diseases of the neighbouring structures, some of which we are invited to consider later on, in the chapter on "other affections, which may call forth morbid phenomena in connection with the ear," such, for example, in diseases of the brain and nervous system. The volume concludes with a chapter on "Deaf-mutism : its nature, etiology, and treatment."

The translation, if a little stiff at times, is, on the whole, well done, and leaves little to be desired. From a material point of view this handsome volume reflects the greatest credit on its publisher, who has evidently spared no pains to make it "a thing of beauty" as well as a substantial work of reference.

S. M.

Sterility in Women, including its Causation and Treatment. By ARTHUR W. EDIS, M.D. Lond., F.R.C.P. London : H. K. Lewis. 1890.

THIS work, comprising 112 pages, is divided into two

parts. The first is based on "an attempt to give a short account of sterility," in the author's "Manual of Diseases of Women," now out of print; the second is an appendix containing a series of cases illustrating his method of treatment. As to the former all that need be said is, that it appears to be simply a compilation from gynæcological literature—good, bad, and indifferent—and which, with equal propriety, might have appeared under any other rubric which suggested itself to the compiler. As to the appendix, we confess to a feeling of surprise on reading the remarks with which the cases composing it are prefaced. These we quote, as indicating not only the mental attitude with which the author approaches his subject, but also the value we may attach to them as *pièces justificatives* of what goes before. "If one could follow up the history of every case that has been submitted to treatment, the number of cures would be far greater than appears in one's case-books. It frequently happens that some patient remains under treatment for a short time and then disappears, without anything being further heard of her until some years afterwards, when she presents herself again for some present ailment, and informs you that since you last saw her she has had several children. She either intended to write and tell you, or meant to call and show you the baby, but never did so. It is for this reason 'case-book statistics' are utterly unreliable, *and (apparently) unsuccessful cases have not therefore been given.*"

Any slight hope of edification that remained after reading the above, finally disappears when we come to examine these *fleurs choisies* of the author's case-books. The majority of them are women who have been married for a period *not* exceeding two years, some indeed for less than twelve months! To label a "patient, aged 26, married nearly a year, writhing in agony, due to advent of the catamenia" (page 105), as sterile, appears to us as precipitate as is unwarrantable the statement that the subsequent pregnancy after a course of graduated bougies, glycerine, tampons, "and other local means" is its cure. The use of the word "sterile" in such a connection is an evident abuse of terminology.

At page 3 we are told that "Ninety per cent. of sterile women are married to husbands who have suffered from gonorrhœa, either previous to or during married life. The inference, therefore, is clear that before resorting to any active treatment of the female for sterility, we should endeavour to ascertain whether the secretion from the male is healthy in character and contains living and active spermatozoa."

It is possible that the author seeks to satisfy himself on this point as a matter of routine in the treatment of his so-called sterile patients, but of this there is no evidence in the cases he has seen fit to publish. This, however, may be an omission, as we are told that here "no attempt has been made to enter minutely into particulars." In this, we think, he does himself but scant justice, and it would be ungrateful not to acknowledge the wealth of detail—not of much scientific interest, we admit—with which his cases are "embellished." He tells us, "In our student days we are taught the science of our profession; later on we learn the practice; but not until many years have passed do we attain to the art of our profession" (p. 93). The description of the "highly neurotic, garrulous little lady who had been doctoring nearly the whole two years of her married life," and of the other interesting patient, may have considerable merit from the artistic point of view, but it is to be feared that neither the science nor practice of gynæcology will profit much by their publication. Judged by the needs of the despised, inartistic "general practitioner," it would be difficult really to say what these cases do illustrate, unless it be the author's apparent systematic neglect of the rules he quotes with approval in the earlier part of his work.

Handbook of Dr. Koch's Treatment in Tubercular Disease. By E. F. Grun, M.R.C.S. &c., and W. D. Severn. London: J. & A. Churchill. 8vo. Pp. 57; 2 figs.

This little book has been brought out in too great a hurry. It is full of mistakes. We do not think that the author's excuse for this is a valid one, viz., that forty-eight hours only were used in its compilation! What need was there of so much haste? Nothing really good can be done, we believe, under such high pressure. At the same time we are quite willing to acknowledge that a carefully-written pamphlet, embodying an account of all that had been done in Berlin and elsewhere to test Prof. Koch's new treatment, during the early days following the first announcement of the remedy, might have been both interesting and valuable. While strongly deprecating, then, the want of care exhibited in the production of the present *brochure*, we are inclined to give the authors credit for their idea of writing such a book. In spite of the Vivisection Act, we are happy to inform them that a good deal of very excellent work in experimental Pathology (which, of course, includes Bacteriology) is being done in this country. We are heartily at one, however, with them in hoping that Koch's very laborious and valuable work, to say nothing of his most recent discovery, will increase our enthusiasm in this most important line of research.

Lehrbook der Auscultation u. Percussion mit besonderer Berucksichtigung der Besichtigung, Betastung, u: Messung der Brust u. des Unterliebes zu diagnostischen Zwecken. Von Dr. C. Gerhart, Professor der Medizin u. Geh. Med. Rath in Berlin. Fifth enlarged and improved edition. With 49 woodcuts in text. Tubingen: 1890.

This excellent handbook of Prof. Gerhardt, now in its fifth edition, is one of the best of its kind, we have seen. After an introduction in which is sketched briefly the history of the various methods of physical examination, by means of which we are helped to diagnose the different medical as distinguished from surgical affections, these methods are described *seriatim*. Under the head of Inspection, colorations of the skin, formation of the chest-walls, normal and abnormal movements of breathing (including dyspnœa), pulsation about the chest, normal and abnormal apex-beats of the heart, are fully treated of. Certain points in the inspection of the abdomen are also touched upon. In addition to that which is usually included under Palpation, the subject of the pulse is shortly and concisely described. Next the Mensuration (*Messung*) of the chest by means of the tape, calipers, cyrtometer and thoracometer, and the measure of the breathing capacity, by the spirometer aud pneumograph, is described. The method of percussion, its uses and its diagnostic value, as well as its application to the lungs, heart, liver, &c., is very fully discussed. To Auscultation is naturally devoted much attention, but one does not notice anything specially new in the

description. The next sections are devoted to the consideration of groups of symptoms, and the diagnostic value of the signs and symptoms in the most common chest affections, both pulmonary and extra-pulmonary. As regards valvular affections which are, we venture to think, rather too shortly dismissed, our author appears to have views somewhat differing in one or more points from those usually taught in England; for example, in mitral stenosis, he says: "the auscultation shews in many cases a loud grating, blowing or sawing *diastolic* murmur only, in other cases both systolic and diastolic murmurs, but most commonly a (? *auricular*) systolic sound, which is introduced before the first sound (and is therefore a diastolic sound), and a sound which begins at the close of the diastole, and lasts through the first sound." Some of the diagrams, however, illustrating certain of the diseases treated of in the text are certainly useful.

We hear that this book is about to be translated into English, and we think that when it appears in the form to which we are accustomed in this country, *i.e.*, when it is well printed, on good paper, and also well bound, it must find a considerable amount of support here; it will, however, meet with formidable rivals in the already existing and excellent manuals of Gee and Guttmann.

Patents.

[*This list is specially compiled for the* LONDON MEDICAL RECORDER by Messrs. RAYNER & CASSELL, *Patent Agents, of 37, Chancery Lane, London, E.C.*]

19,969. Surgical sandal soles. NATHANIEL CHAS. BLETCHLY and ENOS TOM BLETCHLY, 89, Northgate Street, Gloucester. Dec. 8.

20,054. Improvements in and relating to forceps for inserting dental wedges, and in and to dental wedges for use therewith. GEO. JAMES DAVISON, 77, Chancery Lane, London. Dec. 9.

20,190. Improvements relating to the treatment of patients preparatory to and during surgical and dental operations and to apparatus therefore. CORNELIUS BENNETT HARNESS, 45, Southampton Buildings, London. Dec. 11.

20,270. Seat or air cushion for infant feeding bottles. NATHANIEL BERGHEIM, Swillington Rectory, Leeds. Dec. 12.

20,507. Improvements in splints or apparatus for applying local support or rigidity to limbs or parts of the body. FRIEDERICK HESSING, 18, Buckingham Street, Strand. Dec. 16.

20,547. An improved liniment pad. WM. WILSON HORN, 151, Strand, London. (BENJAMIN T. JACOBS, United States.) Dec. 16.

20,629. Improvements in infants' and similar chairs. HERMANN LOSSNITZ, Temple Chambers, London. Dec. 17.

20,839. New surgical knitting ware. ARTHUR FREDK. LONGDON, 37, Chancery Lane, London. Dec. 20.

20,933. An improved ointment. ELIZABETH ANN TURNER, 18, Fulham Place, Paddington, London. Dec. 23.

SPECIFICATIONS PUBLISHED.

10,310. GREY. Artificial teeth. 1890, 6d.

1,642. GREENISH AND GLEW. Inhaling and injecting medicinal vapours. 1890. 8d.

20,819. BREUILLARD. Pumps for medicinal and surgical laboratories. 1889. 8d.

The above specifications may be had of Messrs Rayner & Cassell, Patent Agents, 37, Chancery Lane London, W.C., at the prices quoted.

[Should any of our readers desire to take out patents for inventions, either English or Foreign, and require advice upon the subject, the "Patent" Editor will be pleased to give them the benefit of his knowledge and experience. Communications addressed to the "Patent" Editor, *Medical Recorder*, 13, Waterloo Place, Regent St., S.W., will receive prompt attention.]

Miscellany.

WE understand that a meeting will shortly be held at Leeds to consider the most suitable way of founding a memorial of the late Mr. M'Gill, of Leeds, whose recent death was noticed at the time.

WE are requested to state that the publication of the "Journal of Laryngology and Rhinology" has been transferred to Mr. F. A. Davis, of 40, Berners Street, W. The editorial department will continue to be represented by Dr. Norris Wolfenden, of London, and Dr. John MacIntyre, of Glasgow.

DR. RICORD'S LEGACY.—The French Academy of Medicine have been authorised to accept the legacy bequeathed to it by the late Dr. Ricord for a foundation of a prize to be awarded every two years to the author of the best work on venereal disease which appears in the intervening period.

TYPHOID FEVER IN ITALY.—Typhoid fever is reported to be extremely prevalent in Pisa, and to have extended to Florence. The epidemic is due to the use of water obtained from contaminated wells and the inactivity of the authorities is the less excusable, seeing that an abundant supply of pure water is available from the aqueducts with which the latter city is liberally provided. Intending visitors to Florence should take heed.

THE *Bulletin Médical*, as quoted by the *Deutsche Med. Zeitung*, No. 99, 1890 (Dec. 11), is very outspoken on the behaviour of the Prussian Government with regard to Koch's discovery. "This is the first time, perhaps it will not be the last, for bad example is contagious, that we have seen a Government obtain possession of, fabricate, and export a secret remedy. Up to the present, scientific discoveries have overleaped the chains which separate nations, and medicine, the servant of humanity, knew no fatherland. If the anticipations of Koch's remedy are realised, the Prussian Government will be mistress of the health and life of millions of tuberculous people, its tributaries in all countries; a great glory this for Herr Gossler perhaps, but assuredly a still greater responsibitity."

THE IMPORT OF DIFFERENCES IN THE PULSES.—A difference in the radial pulse in a patient was long thought to be indicative of the existence of an aneurism of the aorta, or of one of the great vessels coming from it, but recent observations have shown that although the characters of the pulse, which have been regarded as pathognomonic of aneurisms, are not due to aneurisms *per se*, in that they may not only be present without a concomitant aneurism, but may be absent when the condition exists. According to

Ziemssen, the phenomena are due to a narrowing of the artery—innominate or subclavian, as the case may be—and while it may occur in aneurism, as the result of pressure, for example, it is most frequently the result of arteritis deformans, an atheromatous condition of arteries which often causes narrowing of the vessel. Ziemssen mentions eight cases in which the pulse tracing had given rise to the suspicion of aneurism, but in which *post-mortem* examination revealed exclusively arterial lesions of this nature. Inasmuch as arterio-sclerosis of the aorta is much more common than aneurism, the subject is of importance in prognosis as well as in diagnosis, and should receive special attention—*Hospital Gazette.*

Poisoning by Bromide of Ethylene.—The *Lancet* relates a curious, but unfortunately fatal, mistake of a chemist which recently occurred in Poland, in consequence of an order for bromide of ethyl, which was required by a surgeon for use as an anæsthetic. This substance has been, as is pretty well known, a good deal used by dentists and surgeons in Switzerland and Germany instead of ether or chloroform, especially for small operations, and it has generally proved fairly satisfactory. In the case in point the operation proposed was external urethrotomy in a strong young man, for whom bromide of ethyl seemed to the operator to be peculiarly suitable. The chemist, however, sent a bottle of bromide of ethylene, a very different substance, but the mistake was not recognised, and so the patient was made to inhale some ten drachms of it. No anæsthesia was produced. At night uncontrollable vomiting came on, and there was suppression of urine. The next day the vomiting continued, in spite of every remedy that could be thought of until the patient died. No urine was passed, and the bladder was quite empty. At the *post-mortem* examination hyperæmia of the meninges of the brain and of the lungs, spleen, and kidneys was found. The liver was much enlarged, and was of a dirty yellow colour, the cells were affected by granular degeneration, and the viscera smelt strongly of the garlic-like odour of bromide of ethylene. The puzzle is, how a pharmacist came to have such a substance as bromide of ethylene. Had the name suggested by Merck—æther bromatus—been employed, there could not well have been any mistake; but *æthyl* might perhaps, if badly written, be confused with *æthylen.*

Hereditary Chorea in Adults.—Dr. Bernatski reports in a Polish medical journal a case occurring in the Warsaw University Clinic, of the so-called "Huntington's chorea," or chronic hereditary St. Vitus' dance in adults. According to the accounts given of it in medical literature, it is an extremely rare affection, appearing in adults, and being complicated with mental disturbance. It is hereditary, whole families being affected by it. Irregular incoordinate movements appear first in the facial muscles, and afterwards spread to those of the upper extremities and of the trunk. These movements become arrested or diminished during voluntary movements, this constituting, according to Landois, a pathognomonic symptom distinguishing the affection from St. Vitus' dance as described by Sydenham. The majority of authors who mention the disease describe it as incurable. Dr. Bernatski's patient was a man of forty-eight years of age, a shoemaker by trade, who, when admitted, had been suffering from choreic movements for five years. His mother and his maternal grandfather had been similarly affected. The movements occurred in the head, face, the upper extremities, and in the trunk. At first, bromide of potassium was prescribed to the amount of 62 grains per diem. This, however, was quite useless, the movements continuing as before. Liquor arsenicalis—that is, of course, the Russian one, which is stronger than that in the British Pharmacopœia, in the ratio of 6 to 5—was then ordered. Six drops per diem were given at first, being gradually increased until ten drops daily were taken. After four days of this treatment there was some perceptible improvement, and by the eleventh or twelfth day the involuntary movements had very nearly ceased, the fingers only showing signs of them. It would, therefore, appear that arsenic is indicated in this disease, and affords some hope of cure. The patient referred to left the hospital, and was not seen again.—*Amer. Pract. and News.*

The Lost Three Millions.—In our April number, last year, we had occasion to refer to the population question in France, which was then causing that nation much uneasiness as to the perpetuation of its species. It appears, however, from an article in a recent number of the *Medical Record*, that the other great Republic has likewise cause to be apprehensive lest, from matrimonial sterility, its future progress should suffer some impediment. Here are the facts. Between 1870 and 1880, with an immigration of 2,707,000 only, the increase of population was 11,598,000; so that, deducting the immigration, the increase due to the excess of births over deaths appears to be 8,891,000. Between 1880 and 1890, with an immigration of 5,275,000, the total increase of population is 12,225,000; and if we deduct the immigration, the increase which is due to the excess of births over deaths appears to be 6,950,000 only! The excess of births over deaths, which was nearly 9,000,000 between 1870 and 1880, falls to less than 7,000,000 in the following decade, although the population at starting was 25 per cent. greater in the later than in the earlier decade. The birth-rate has thus fallen off both absolutely and relatively, for under ordinary circumstances the increase of population should have been nearly 10,000,000, instead of nearly 7,000,000. Worse follows. It is computed by our American contemporary that had the average of births increased in an adequate ratio, the number for the last decade should have reached the total of 20,000,000. From this it will become evident that the absolute deficit in the crop of olive-branches amounts to somewhere about 14,000,000. For a comparatively young nation like America this deficit is of much more serious import than it is with an old race such as the Gallic. In a new country, with resources still to be exploited, an increase of population is of course co-equal with an increase of wealth. This idea was fully realized in the Phallic worship of ancient Greece, by the Phœnecians, and other races of that period in the world's history. It would be impossible to focus to any one point the various causes which operate in effecting this decreased birth-rate in Cousin Jonathan's family circle. It would be still more out of the question to attempt any exhaustive discussion of the subject, considering the space at our disposal. Our transatlantic kinsmen may, however, find some grain of comfort by considering the rule of reproduction which obtains throughout the organic universe. It is this:—A minimum of stress in the struggle for life is invariably accompanied in direct proportion by a minimum of reproductive activity. We, with our "submerged tenth," are perhaps the most prolific race in the world. Which condition is the most desirable is a matter which we do not feel called upon to discuss.

The London
Medical Recorder.

VACCINATION IN FRANCE.

THE French Academy of Medicine is just now the scene of a struggle between those who are in favour of a law making vaccination compulsory, and the others who think that the present permissive system goes as far as is consistent with personal liberty. The general in command of the "volunteers," that is to say, of those who object to compulsory protection, is no less an authority than Professor Léon Le Fort, and last week he made a vigorous sally from behind his entrenchments, and, with heavy artillery in the shape of arguments, he prevented the further advance of the attacking forces. There are several points in Prof. Le Fort's address which merit attention, especially as the matter is at present under consideration in this country. First of all,—and the news will come as a surprise to those who have been in the habit of regarding France as being at the prow of civilisation,—all statistics based on the mortality-returns, from the different diseases, must be incomplete, and therefore misleading, for the cause of death is only recorded for statistical purposes in the more important French towns, and, presumbably, not at all in the rural and smaller urban districts. What the total annual mortality from small-pox in France may be, can, therefore, only be matter of conjecture. Still, the Professor admits that it is certainly higher than it ought to be or need be. Another fact, hardly to the credit of French provincial authorities, is, that nowhere outside Paris is any attempt made to isolate the sufferers from small-pox. He is therefore compelled to fall back upon the Paris returns, and these show that the mortality has been steadily diminishing, from 32 per 100,000 inhabitants, during the period 1865-76; 55 per 100,000 in 1880-7; to 5 per 100,000 in 1889. The returns of the Small-pox Hospital at Aubervilliers testify to the same diminution, the admissions and deaths having been as follows:—

1887	...	1,400 Admissions	...	215 Deaths.	
1888	...	1,079 „	...	152	„
1889	...	706 „	...	63	„
1890	...	363 „	...	37	„

There are no available means of ascertaining the proportion of cases of small-pox per 100,000 inhabitants in the country; still less the proportion of deaths to cases of infection. We are, however, told that country doctors have the greatest difficulty in procuring lymph and the people have the greatest difficulty in getting vaccinated, even supposing they were so disposed.

Let us compare these figures with the German statistics. It must be borne in mind that vaccination has been compulsory throughout Germany since 1835, and in some parts since 1815. The returns are as follows:—

In 1834	..	54 deaths per 100,000 inhabitants.		
„ 1836	...	19	„	„
„ 1847	...	9	„	„
„ 1856	...	7	„	„

In 1865, the war led to a relaxation of the stringent rules in respect of isolation, and forthwith the number of deaths from small-pox jumped up to 46 per 100,000, and in the following year to 62. During the Franco-German war, small-pox was imported into Germany by the returning soldiers, and more particularly by the French prisoners of war, and the mortality from variola in 1871 attained 59,839, and 77,000 in 1872, equal to 233 per 100,000 civilians, and 31 per 100,000 of the military population. In 1874, the vaccination law was consolidated, and a vaccination service founded for the supply of lymph, and by 1877 the number of deaths (810 in 1876) had fallen to 88. This level, however, was not maintained, for in 1882 the figures had again risen to 1,007. Thereupon the German Government enjoined more stringent measures for isolation, and then the downward tendency returned, and in 1886 the number of deaths was 140 only.

In England, the mortality in 1885—a time when vaccination had long been in full swing, but when isolation was not seriously enforced—the number of deaths from small-pox in London alone was 1,419. In 1886 the number fell abruptly to 24, in 1888 to 9, and in 1889 to 1 (!). This diminution coincided with the introduction of isolation on a large scale, which reached its apogee with the law for compulsory notification in 1889.

Professor Le Fort argues from these figures that, though vaccination has an undoubted and valuable influence in affording protection and in mitigating the severity of the disease, the most effective and reliable means of preventing the spread of the disease is rigorously enforced isolation.

While it is impossible to deny the salutary influence of isolation, it seems a trifle inconsistent to object to vaccination as an infringement of the liberty of the subject, while rallying to the principle of compulsory isolation, which is as directly in contravention of personal liberty as any measure well could be. To take a patient, *non volens*, and shut him up for eight long weeks in a hospital, is surely as obvious an attack on his liberty as to insist on his submitting to the trivial operation of vaccination. This question of personal liberty, unfortunately, does not admit of any categorical reply. Different people have different ideas as to what constitutes liberty, and as to what limits, if any, are to be assigned to its play. Still, the great object that we have in view, is to secure cheerful submission to an infliction imposed by reason rather than by law, and if this could be attained by persuasion, instead of coercive legislation, then the choice would be easy.

NEW METHODS OF TREATMENT FOR TYPHOID FEVER.*

IN the treatment of typhoid fever great reforms have recently been made, and the present paper deals with these, calling special attention to the three following points:—(1) Antiseptic treatment; (2) the use of cold baths; (3) measures intended to prevent the spread of the disease. Although Eberth's discovery of the specific "bacillus typhosus" has not yet given a complete explanation of the pathology of typhoid fever, it has at least shown us the direction in which our efforts should be led. It is prophylaxis which has, as usual, most benefited from the discovery. Almost every epidemic which has been carefully studied has of late shown that it is in water that the contagium

* BY DR. DUJARDIN-BEAUMETZ. (*Bull-Gén. de Therap.* Dec. 3, 1890.)

resides, and that this can be cultivated so as to reveal the presence of the bacillus. It would be rash, however, to affirm that water is the sole means of propagation, for we must admit other channels, such as infected latrines, the bilge of ships, and contaminated soil, as being also the occasional starting-points. Prophylactic hygiene has utilised all the above knowledge. As public measures we have, or should have, a wholesome water-supply, thorough disinfection of the public conveniences; while, as regards private hygiene, we should make a point of destroying all dejecta of typhoid patients as soon as possible, and thoroughly disinfecting everything with which they may have come in contact. The disinfectant to be specially recommended is sulphate of copper solution, which should be prepared in two strengths: a five-per-cent. solution ought to receive and disinfect the stools, latrines, and soiled linen, while a one-per-cent. solution is to be used by the attendants for washing their hands and faces, and the parts of the patient soiled by the dejecta. Nurses should be counselled not to take their meals in the sick-room, and to wash their hands after lifting the patient. Lastly, everything which has been in contact with the patient should be sent to be disinfected by steam-heat, for which arrangements ought to be made by the authorities. If the water-supply be doubtful, it is a wise precaution to use nothing but *boiled* water,—filtration, as usually carried out, is worse than useless; even the porcelain filters of Chamberland, which, when in good order, stop the passage of all microbes, are liable to become foul unless frequently sterilized by heat, and the least flaw renders them useless for disinfection.

Passing from general hygienic measures, the importance of which cannot be over-estimated, the writer proceeds to the study of new remedies Now, in typhoid fever, a marked sign is the putridity of the stools, and this is due to the state of the intestinal tract and of the numerous ulcers in its walls, which sometimes even lead to sloughing of portions of the mucous membrane. It is to combat this condition that the most strenuous efforts have recently been made, and a large number of antiseptics have been proposed, such as charcoal, iodoform, naphthaline, or naphthol. But the one to be most recommended is salol, which ought to take the place of all others for the following reasons:—Naphthol is always irritant, and often not tolerated. Salol on the other hand is well borne; it is not decomposed till it reaches the intestine, where it acts as a thorough disinfectant; and it is possessed of feeble toxicity, the poisonous dose for a rabbit being as much as a gramme per kilogramme of body-weight. This drug should be given in doses of ʒss.—ʒi. daily. The next symptom to be combated is the fever, and here the writer cautions us against the too lavish use of antipyretic drugs. To keep the temperature down by the constant use of antipyretics is, unfortunately, only equivalent to masking the grave symptoms of the disease, which are present notwithstanding the normal temperature. Many of these drugs may also do harm by diminishing the excretion of urine, and so encouraging the accumulation in the body of the toxines which it is so important to eliminate. The use of tepid baths is free from the above drawbacks. They are an excellent method of treatment, quieting nervous symptoms, reducing temperature and producing an agreeable freshness of the skin, which allows the patient to enjoy sleep. In adopting this treatment, it is well to begin by sponging, and if the temperature rises above 104° F. to give tepid baths, one or two daily, according to the thermometric indications; the bath should not last more than from twenty to thirty minutes, and when the patient is weak, stimulants should be given during this time. If the weakness is extreme, wet-packing may be adopted; the duration of this process should, however, never exceed thirty seconds. Before passing from the consideration of drugs the writer mentions the use of quinine as being often of great service,—not in the large doses formerly employed, but in moderate doses of about 15 grains daily. This remedy seems in some cases to exert almost a specific action.

The concluding remarks in this interesting paper must be well borne in mind. Different epidemics vary considerably in virulence, and a plan of treatment which will be of service in a given case at a given time may prove quite useless or even harmful at another time. Typhoid fever is a disease which will not admit of unvarying treatment, and to achieve the greatest success we must watch each case carefully to see which line of treatment is specially indicated. In the words of another writer, *we must treat not typhoid fever, but the typhoid patient.* But, however the plan of treatment is varied, there are three elements of success which ought always in great measure to regulate our therapeutics: disinfection of intestinal contents, abundant diuresis, and scrupulous hygienic precautions. For the first, salol fulfils best the requisite conditions. As to diuresis, perhaps the best method of producing it is to give large quantities of fluid by the mouth in the form, for instance, of cold or even iced lemonade. Little can be added to the hygienic measures already considered. It is becoming, however, a generally recognized fact that success in treatment depends, to a great extent, on careful nursing, with unremitting attention to every detail of cleanliness.

THE PLACE OF MERCURY IN THERAPEUTICS.*

As a vindication of the position given to mercury in the treatment of various affections, the series of articles now commenced by Dr. Hurd will be read with interest. Few drugs, or none, have been more freely used, and the question whether to give or withhold mercury has been the subject of innumerable debates. The present paper deals with the use of mercury in syphilis. Mercury had long been used among the Moors in the treatment of parasitic skin affections (itch, mange, fevers, &c.), and it was the good result obtained in these cases that led to its use in the cutaneous syphilitic rashes. The earliest method was, therefore, a modification of the inunction process, and it was not till 1536 that the drug was given internally. After the first wave of popularity, the new treatment began to find many opponents. The drug was given so lavishly, and so utterly without care or judgment—from ignorance of its constitutional effects—that the resulting salivation, paralysis, tremors, &c., were regarded as, perhaps, a worse evil than the original disease. Thus arose two schools—the mercurialists and the anti-mercurialists—both equally confident of their grounds. In the present century this controversy has been revived, to some extent, this time, as a result of the closer study of syphilis. Many cases were found to get well if left entirely alone, as a specific treatment was thought by some to be unnecessary. Yet it seems to have been

* By E. P. Hurd, M.D. (*Therap. Gazette* January, 1891.)

then, and certainly is now, the more general opinion that cures with mercury are quicker and more permanent than cures without the drug. Of course, its use is not now pushed till salivation and other *toxic* effects appear, but we strive only to obtain its *tonic* effect, and the good effects of the treatment on the cutaneous symptoms are specially noteworthy. As regards its effect on the blood, this seems to be different in the syphilitic and in the non-syphilitic: for, whereas in health mercury is said to diminish the corpuscular richness, its use in syphilis is certainly accompanied by great increase in the number of red corpuscles. No better theory has been advanced to explain this than that of Wilbouchewitz—viz., that syphilis produces corpuscular disintegration and diminution; mercury, by antagonizing this action, causes the globules to increase. "It is still, however, a choice between two evils, for mercury none the less acts as a corpuscular poison when given in syphilis; only the syphilitic agent more rapidly and more intensely spoils the blood, and mercury does a greater good than evil by staying the ravages of the baneful microbe."

It will be easily seen, then, how much harm may result either from the excessive use of mercury, or from its employment in cases not really syphilitic, and it is certain that the drug, to have a "tonic and reconstituent effect" in syphilis, must be given only when syphilis exists. As regards the stage at which treatment should be commenced, opinions seem to vary with different schools, and it is probable that as many good authorities could be mustered on one side as on the other. It is, however, certainly advisable never to treat a suspicious induration as a specific infectious lesion until quite sure that it is such.

As for the preparations and doses, there are again wide differences in the use at various schools. At Tübingen the drug preferred is calomel, given as follows:—For five days, morning and evening, 10 centigrammes; the five following days, 20 cgr.; the next five, 40 cgr.; for the twenty following days, 50 cgr. In anæmic and debilitated patients the doses are smaller, and the treatment much more prolonged. Dujardin-Beaumetz prefers the method by the mouth to either fumigation, inunction, or hypodermic injections, and the bichloride or bimiodide is the salt chosen. Others, especially in England and America, prefer a mixed treatment, using some such formula as the following: — ℞ Pot. iod., ʒi.; hyd. perchlor., gr. vi.; aq. ad. ʒxii. Sig. ʒi. ter. die sumend. As a rule, the patient is kept under the mild influence of this mixture for at least five or six months. Bäumler suggests that the rule should be to select the mercurial preparation which can be continued for the greatest length of time without causing derangement of the digestive organs. He prefers either blue pill or *Hyd. c Cretâ*. All authorities admit that mercury in any form is only of use in the secondary manifestations—that in combating tertiary symptoms our sheet-anchor must be iodide of potassium. In conclusion, the author urges most strongly that mercury acts as a tonic and reconstituent in syphilis only by antagonizing the syphilitic virus and checking a greater evil, and that the smaller the doses that produce this result the better (as a rule for the patient.

THE death of Dr. Warlomont (Brussels), the celebrated ophthalmologist, is announced. His death is a loss to science.

THE DEVELOPMENT OF THE SYMPATHETIC SYSTEM OF MAMMALS.*

THE research in question was carried out on mammalian embryos (rat, mouse, rabbit, and human). The following is an account of the observations:—The first event to occur is the formation of the main sympathetic cord. In very young embryos (*e.g.*, rabbit, seven days, axial length, 5 mm.), in which the spinal nerves are completely formed and the spinal ganglia clear and distinct, there is no trace of the sympathetic ganglia or the connecting branches with the spinal nerves. The cord is first seen in transverse and sagittal sections of mouse and rat embryos of about eight days. It arises on either side as a solid, uniform, unsegmented rod of fusiform cells, imbedded in the mesoblast surrounding the aorta, and lies in the interval between the latter and the adjacent veins. Slightly thicker anteriorly than posteriorly, it ends abruptly in front at the level of the first vertebral segment; behind it becomes indistinct posteriorly to the suprarenal body, to which it sends a considerable cellular bundle, and, tapering off, disappears at the level of the hind limbs. This cellular column is formed by the differentiation of the mesoblastic cells *in situ;* it is not connected with the spinal nerves, and it is unsegmented. The next step consists in the junction of the spinal nerves on either side with these columns of cells. This is effected by the gradual growth of the inferior primary division of the nerve, and its final division at the junction of the body-wall (somatopleure) and splanchnic area (splanchno-pleure) into somatic and splanchnic branches (rat, mouse, eight to nine days). The former passes on to be distributed in the body-wall. The latter can be followed in succeeding stages in a ventral and mesial direction, until at last it meets and joins the cellular sympathetic cord (mouse, eleven days; rat, twelve days). The origin of this splanchnic branch is from both roots of the spinal nerve, of which the ventral root contributes the greater number of fibres. At its peripheral end it terminates in one or two ways. At the anterior part of the thorax the fibres seem to end entirely in the sympathetic cord, that is, they have not been traced beyond it. In the posterior thoracic and in the lumbar regions the splanchnic branch, on reaching the sympathetic cord, divides into two parts, of which one joins the cord, the other passes over it. In both cases the fibres which join the cord are directly connected with the component cells. In certain regions no such connections can be made out. Behind the kidney and the bifurcation of the aorta (*i.e.*, behind the loins) the splanchnic branches cease. In front of the fore limbs (*i.e.*, in the neck) the splanchnic branches do not join the sympathetic system. In comparatively advanced embryos, distinct nerves, morphologically similar to the splanchnics, course inwards round the vertebral artery to the tissues surrounding the growing vertebræ, but, at the same time, occupying a position dorsal to the sympathetic cord, and altogether unconnected with it. These splanchnic branches correspond to the white rami communicantes. The formation of the ganglia on the main sympathetic cord occurs subsequently, and is subordinate to the connections with it of the splanchnic branches of the spinal nerves. Up to the time of the formation of cartilaginous vertebral centra, there is no constriction of the main cord (mouse, seventeen to eighteen days).

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* BY DR. PATERSON. ("Ph Trans.," vol. clxxxi.)

Gangliation begins at and after this date, and is due in the first place, and principally, to the junction of the splanchnic branches. This causes the accession of a large number of nerve fibres at the point of entrance, and the consequent persistence of the component cells (which are joined by these nerves) as ganglion cells. Gangliation is caused secondly, and to a less extent, by the anatomical relations of the sympathetic cord to the bony segments, vessels, &c., which are developed near it, and which, by their growth, cause indentation or constriction of the cord at certain points. This view is supported by the evidence obtained from the dissection of human embryos of different ages (third, fourth, fifth, and sixth months), where the cord has the form of a band or strip, constricted irregularly at considerable intervals, rather than of a regularly nodulated chain, and by the evidence derived from the normal adult structure, where the "segmentation" of the sympathetic cord is apparent rather than real. The cervical portion of the embryonic sympathetic cord is at first undifferentiated from the main column. Growing with the growth of the neck, it separates at the origin of the vertebral artery into two unequal parts. The smaller part forms a fibro-cellular cord, which accompanies that artery and forms the vertebral plexus. The other or main portion accompanies the carotid arteries. Growing rapidly it becomes constricted off from the main sympathetic cord by the formation of a gradually elongating fibro-cellular commissure, and gives rise to the "superior cervical ganglion." This lies alongside the internal carotid artery, and gives off anteriorly a fibro-cellular bundle which accompanies, and is, finally, lost upon that vessel as the carotid plexus. When the middle cervical ganglion is present, it may be looked upon as representing a mass of the original cells of the sympathetic cord, which have been included in the growth of the commissure connecting the main cord to the superior ganglion. These parts may be regarded as belonging to the collateral distribution of the sympathetic system, because (1) they are outgrowths from the main cord, and (2) they receive no splanchnic branches directly from the spinal nerves. The caudal termination of the sympathetic system is likewise an outgrowth from the main cord. In the youngest embryos in which it is found (rat, eight days) the cord is lost at the level of the hind limbs; at a later period of development (rat, twelve days) it reaches further, to the bifurcation of the aorta; while in still older embryos it can be traced alongside the middle sacral artery for a considerable distance. It is not joined by splanchnic branches, and it is only in an advanced stage of development (rat, twenty-two days) that transverse cellular communications take place on the dorsal aspect of the middle sacral artery between the cords of opposite sides to produce the ganglion impar and the loop of connection between the caudal ganglia. The peripheral branches from the sympathetic cord arise as cellular buds or outgrowths, which are first seen about the time when the splanchnic branches of the spinal nerves join the cord (mouse, rat, eleven to twelve days; human embryo, first month). They accompany the parts of the splanchnic branches which do not join the sympathetic cord into the splanchnic area; and, especially in the hinder thoracic region, form considerable masses traceable along the main vessels, which in older embryos give rise to parts of the splanchnic nerves, as well as the medullary portions of the suprarenal bodies, as previous observers have described. The grey rami communicantes may (doubtfully) be said to belong to the category of peripheral branches from the sympathetic cord. They appear to arise from the cord as cellular outgrowths, which pursue a centripetal course along the splanchnic branches of the spinal nerves towards their roots; but in regions where these are absent, or are unconnected with the sympathetic cord, the author has not been able to satisfy himself about their formation. The principal conclusions derived from these investigations are, that the sympathetic system in Mammals is mesoblastic, is formed *in situ* out of the cellular tissue surrounding the embryonic aorta, and is at first entirely independent of the cerebro-spinal nervous system; it is primarily uniform and unsegmented, in this respect resembling the organs in the splanchnic area—the vascular and alimentary systems—with which it is so closely related, functionally as well as structurally. It becomes secondarily connected with certain spinal nerves by the growth from the latter of the white rami communicantes, and, in consequence, becomes gangliated in an irregular manner. From the main cord cellular outgrowths arise, which form peripheral non-medullated nerve-plexuses and ganglia, as well as the medullary portions of the suprarenal bodies. Morphologically, the Mammalian sympathetic cord resembles the structures with which it is in structural and functional relations, in being mesoblastic, and in its development primarily unsegmented. It is a rod fibro-cellular in structure, out of which, on the one hand, are produced certain ganglia and nerves, and which, on the other hand, becomes connected with certain cerebro-spinal fibres — the splanchnic branches of the spinal nerves. The mechanism thus produced may be regarded as providing for the guidance of these fibres (*e.g.*, vaso-motor nerves) to their destinations, and as regulating their proper distribution to the vascular and alimentary systems.

CAFFEINE.*

Dr. Schivardi takes advantage of the interest excited by the announcement that the Emperor of Brazil, falling ill at Milan, had derived unhoped-for benefit from caffeine, to record in a series of papers what is known about this remedy. Commencing with the history of the alkaloid, he goes on to discuss the value of its salts, the bromide, arseniate, benzoata, citrate, muriate, lactate, salicylate, sulphate, and valerianate.

Professor G. Sée, in a recent communication to the French Academy of Medicine, states that caffeine is the only active substance in maté, tea, guarana, and kola, and that this principle has a cumulative action in certain doses upon the nervous and muscular systems. On the other hand, Professor Heckel, of Marseilles, has observed that after the extraction of the caffeine from kola, by means of chloroform, the remaining powder is still found to act as a muscular excitant, while the nervous excitation is scarcely sensible, which leads him to believe that kola contains another active principle beyond caffeine. There is not, as yet, a complete agreement upon the physiological and therapeutic actions of caffeine. The most trustworthy observations are those of Profs. M. Semmola and G. Marconi, published in the *Progresso Medico* of Naples. It has been found, by experiments in animals, to be a powerful stimulant to the action of the heart, which is

* By Dr. Schivardi. (*Gazzetta degli Ospitali*, No. 101, 102, 103, and 104.)

effected through the vagus nerve. Caffeine has also an exciting action upon the spinal cord, and is also believed to act directly upon the striated muscular fibre of the heart, and on the voluntary muscles. Caffeine is thus entitled to take a place with convollaria and stropanthus in strengthening and making more regular the heart-beats. By its action on the medulla oblongata it is useful in conditions of nervous paralysis, especially when implicating the lungs. Caffeine may thus be of benefit in all functional disorders of respiration, especially in their adynamic stages. Prof. Ferrara, who has also carefully made a special study of caffeine, observes that all agree that its first action is on the nervous system, that with medium and large doses it excites the muscular fibre of the heart, thus increasing the force of the systole; but in large doses, there is a diminution in the frequency of the pulse, owing to the action of caffeine on the vagus. In medium doses, with an increase in the frequency of the pulse, there was a diminution of arterial tension, because, although it increases the heart's action, it at the same time produces dilatation of the vessels. On the other hand, with large doses, the heart-beats diminish in frequence, while the arterial tension is increased. Caffeine thus helps the mechanical power of the heart when it fails, through deficient excitability of the muscular fibre and through exhaustion of its innervation. On the other hand, when the hydraulic power of the circulation is injured by an organic lesion of the heart, such as valvular insufficiency or stenosis, caffeine is powerless, and must give place to digitalis. In the so-called vascular affections of the heart, caffeine, by stimulating the muscular fibre, lengthens the period of diastolic rest, and helps to overcome the increase of arterial tension, which offers so dangerous a resistance to the heart's action. There may be serious affections of the heart, without any pathological lesion of the arteries, through nervous exhaustion. This is what Prof. Semmola has described under the name of "Paralytic Ataxia of the Heart," and in such affections caffeine may be of great benefit. It also acts admirably in cardiac weakness following on exhausting diseases, such as typhoid fever, small-pox, and scarlatina.

Schivardi thinks that when we have impaired nutrition of the heart, along with deficient irritability, caffeine is of no use; and even when the irritability is little diminished, there is a great difficulty to overcome through disease of the air-passages, the effects of the drug are not marked. In heart-disease, and in adynamic conditions, 1½ grammes of caffeine a-day is a medium dose. The drug may be also used by way of sub-cutaneous injection, along with benzoate of sodium in the dose of 0·1 to 0·6 of a gramme. Administered in this way, the effects of caffeine are very rapid. Fraenkel regards these injections as the best remedy against collapse in heart-disease, sudden faintness, with failure of the heart's action. Drs. Schroeder and Stahl have shown that caffeine is a powerful diuretic. The latter observer found that he could increase the urinary secretion eleven-fold in the rabbit by injecting 50 centigrammes of caffeine. Schroeder found that, in cutting the nerves distributed to the kidney, the urinary secretion was increased. He, therefore, thinks that caffeine exerts its diuretic action by stimulating the renal epithelium. Lepine has tried caffeine as a diuretic, but prefers salicylate of theobromine. Dr. Eloy takes advantage of this property of caffeine in the treatment of chronic pleurisy. His treatment is as follows:—Milk-diet, with the administration, every day, of a potion composed of caffeine, from 1 to 2 grammes; benzoate of sodium, 1 to 2 grammes; and syrup of the stamens of maize and infusion of lactuca, to make up 75 grammes, giving, as a dose, a tablespoonful every two hours. Dr. Huchard gives, for the same purpose, 1·50 grammes of caffeine, and as much of benzoate of sodium, in 100 grammes of distilled water, to be taken with black coffee, in twenty-four hours. Dr. Gempt has used it in fibrinous pneumonia, where the weakness of the heart's action is shown by great frequence and irregularity of the pulse. Profs. Bach and Strauch have stated that caffeine is eliminated without decomposition in the urine and the bile, but Schultze claims to have proved its decomposition within the body.

Dr. Gonzalez de los Rios has published (in the *Revista de Medicina y Practicas*, No. 344, 1890) the case of a woman of forty years of age, who had a strangulated inguinal hernia. The symptoms were very alarming. He applied hypodermic injections of caffeine with benzoate of sodium. The result was a motion of the bowels after the second injection, which brought about the resolving of the hernia, and the disappearance of the symptoms in five hours, during which 70 centigrammes of the caffeine were administered. Schivardi gives the following formula for the sub-cutaneous injection of caffeine:—Caffeine, 2·56 gram.; benzoate of sodium, 2·95 gram.; distilled water, 6 gram. Inject ten cubic centimètres. Semmola and Ferrara modify the preparation thus:—Caffeine, 2 gram.; benzoate of sodium, 2 gram.; distilled water, 8 gram. Each c.c. of these solutions contains 21 centigrammes of caffeine. Schivardi recommends the subcutaneous injection of caffeine to giving it by the mouth.

THE TYPHOID BACILLUS.*

THOSE whose experience in medicine goes back for thirty years may remember the difficulties surrounding the question of the etiology of typhoid fever. Bouillaud treated it as an inflammatory disease of the intestines, for which he used bleeding. He taught that it was not transmissible, using as an argument that the students who attended his wards in La Charité never took the fever from the patients. Physicians were slow in recognising the specific nature of the disease. It was undeniable that it occasionally appeared in localities where the water and hygienic arrangements were good, and that it not unfrequently happened that where the water was impure, and where the people were exposed to the emanations of decaying animal and vegetable matter, nevertheless no typhoid fever appeared. This was illustrated on a great scale by what was observed amongst the Federal prisoners confined at Andersonville, Ga., during the American war. More than 20,000 men were shut within a stockade, poorly fed and with little shelter, and a disgusting want of sanitary arrangements. Here one would have expected typhoid fever to have run riot; but although the prisoners suffered very much in health from disorders of nutrition, diarrhœa, and similar diseases, and there was a great mortality, nevertheless typhoid and other infectious fevers were

* *Giornale Internazionale delle Scienze Mediche. Fasc.* 2 and 12, 1890.

Gazzetta degli Ospitali, January 11, 1891.

Annali dell' Instituto d'Igiene Sperimentale dell' Universita di Roma, 1890.

absent. The reason assigned by Dr. Austin Flint and others who recorded these facts was, the prisoners being healthy young men, the germs of specific disease were not introduced, and without these specific germs typhoid fever could not begin. Notwithstanding such observations, it was common enough to hear medical practitioners attribute typhoid fever to bad smells or "sewer gas," a varying compound which has no chemical formula.

Within the last few years we have made great strides in the study of the causation of disease. Views which had to struggle through generations now come to maturity in a few months. In the latest monograph we have seen on typhoid fever,* Dr. J. E. Reeves defines it as "an acute contagious febrile affection derived from an antecedent cause of the disease, and depending for its communication from person to person upon the presence of a specific micro-organism of, believed to be, well-known morphological character – a bacillus— which germ is capable of cultivation outside of the human body."

Whenever we admit this, the mystery about the causation of typhoid fever becomes clear. Depending upon an organism which exists in fluids, it does not spread in the air, like measles or scarlet fever, but it is propagated through drinking water, milk, or other nutrient liquids. It may well be supposed to be propagated in foul water; nevertheless, it will not appear there unless the germs are introduced from without, and it has been found that these germs may live and multiply in pure water. The bacillus of Eberth is regarded as the specific cause of enteric fever, but it is difficult to distinguish it from a number of other minute organisms which are found in water. As many as ten bacilli have been noted, which are similar, and of these at least three are scarcely distinguishable from the fever-bearing germ. Their recognition depends upon minute differences, which are not easily conveyed by description. Bacteriologists have tried to erect criteria between the real and the pseudo typhoids, the typhus-änliche bacillen: —(1) By the mobility or manner of moving of the typhoid bacillus; (2) by the difficulty of staining it, and by its discolouration after a method devised by Gram; and (3) by the way the bacillus propagates on the potato. This last means of differentiation was considered to be the most trustworthy, but could scarcely stand alone. Pfuhl found in the river near Hamburg, during the prevalence of typhoid, a species of bacillus which increased upon potatoes precisely like the typho-genic bacillus, and from which it was only distinguished by its immobility. Moers also found a bacillus in water which had the same growth on the potato, but which Hueppe and Gärtner would not recognise as the true bacillus. Noegherath has proposed to note the culture upon coloured media, which has been pursued by Grancher and Deschamps. Petruschy has proposed as a test the degree of acidity of the product of the microbe upon litmus. Though, perhaps, none of these criteria are quite characteristic, it is admissible that, applied one after another, they may constitute real grounds for distinguishing the true from the false typhoid bacillus. Bacteriologists have observed, in the cultivation of the microbe upon the potato, that the different organisms develope at different rates, and have varying reactions of acidity or alkalinity. Radermaber has carefully observed the development of the typhoid bacillus in milk mixed with gelatine, from which he transfers it to potatoes. By distilling the liquid with common water, he obtained after fourteen days a volatile base of a crystalline saline character and silvery lustre. After treating several pounds of the liquid cultivation, he obtained an alkaline liquid apparently identical with the base which may be isolated from the dejections of typhoid. This alkaloid is the typhotoxina of Brieger. Five grammes of its choloride produced, in a dog weighing thirty-five pounds, dilatation of the pupils with increased action of the heart. In a short time the pulsations began to get weaker, the respiration more frequent, the temperature sunk, the extremities became cold, diarrhœa supervened, and the dog died. The walls of the abdomen were found contracted and pale

It is clear a good deal remains to be done till we completely understand the genesis of this pernicious parasite; but by studying its nature both within and without the body we may hope to learn something which will help the prevention and cure of typhoid fever. It has been generally found that the bacillus disappeared from the tissues of the affected body abour the fourth or fifth week from the beginning of the fever, but Valentini found the bacilli of typhoid in the pus of a periosteal abscess fifty-five days after the beginning of the disease. Fränkel and Simmonds found it in a peritoneal abscess four and a-half months after the infection from typhoid had passed away. Orlov, a Russian doctor, observed it six weeks after an attack of typhoid. During his convalescence a patient had a pain in the left leg, in which a periosteal abscess slowly formed. This abscess was opened six months after, when, amongst the tuberculous pus, the bacilli of Eberth were recognised. These were found capable of cultivation in agar, potatoes, and gelatine.

It is useful to know that the typhoid bacilli are not readily destroyed by the action of pretty strong carbolic acid, and that they soon perish under the action of light. The researches of numerous competent observers on this latter point are summed up in the paper of Saverio Santori, "On the Influence of Temperature on the Microbicide Action of Light," in the "Annals of the Experimental Institution of the University of Rome." These are supplemented by Santori's own experiments. The Italian observer comes to the conclusion that the bacilli of typhoid, of pus, of Asiatic cholera, and of charbon are destroyed in a few hours by the solar rays, even when not accompanied by a high temperature, though heat does assist the effects of light upon these minute organisms. The action of the electric light was found to be much inferior to that of the solar rays. The violet and red rays of the spectrum have no action in destroying the germs. Janowsky considers that the destructive power is exercised by the chemical rays. We thus know that free exposure to the light and air is destructive to these fever-bringing bacteria. It has been observed that the irrigation of lands with town-sewage, if properly distributed, does not increase the prevalence of typhoid fever around, and, on the other hand, there is often a danger in ill-flushed and ill-ventilated drains, in the recesses of which these dangerous germs find the means of propagation.

* "Transactions of the Association of American Physicians," Philadelphia, 1890.

VOLKMANN'S TREATMENT OF CLUB-FOOT.*

ONE of the most important of recent contributions to the literature of surgery is that by von Büngner, of Halse, to the *Centralblatt. fur Chirurg.*, in which he

* *Centralblatt. fur Chirurgie*, Jan. 1891.

gives an account of the successive operations employed by his late master, von Volkmann, in the treatment of club-foot, and of his final triumph in the complete cure of the very worst congenital cases without any surgical operation whatever. During the ten years (1880-9), the cases of congenital club-foot admitted into the hospital were 156, in 98 of which one or other operation was performed. As early, however, as the year 1882, tenotomies were abandoned as failing to give satisfactory or permanent results, with the exception of that of the tendo-Achillis as an auxiliary to other methods; so was excision of the tartus, in 1888, after an experience of four years. Phelps' operation, however, was substituted, and has maintained its position as the chief, and, in fact, the only surgical procedure fulfilling the expectations formed of it. When cases of equino-varus are brought to the hospital in the first year of life, the mother is instructed to perform manipulation of the foot into the prone position, frequently and perseveringly, until, so soon as the child begins to walk, it is fitted with a Scarpa's shoe—a treatment which, in most instances, suffices. If not seen until the second year, slighter cases are treated on the same principle, but more energetically. The child being chloroformed, the foot is held by an assistant in the utmost possible pronation and abduction, the tendo-Achillis being divided, if necessary, while a plaster-of-Paris bandage, or, preferably, one of plaster and water-glass, is applied from the base of the toes to the knee, or, in some cases, nearly to the hip, and left on for two or three weeks. It is then removed, and the same rectification having been carried to a further extent, the bandaging is repeated. This procedure is gone through at regular intervals until the last trace of deformity has disappeared, and the child is then allowed to walk with a Scarpa's shoe, which is worn for a year or more, should there appear any tendency to relapse. Worse cases are at once submitted to Phelps' operation, followed by plaster bandages, and subsequently furnished with a Scarpa's shoe.

But the great discovery, and the remarkable advance in the treatment of these deformities made by Professor Volkmann, is their cure without surgical interference, deduced from the study of their mechanism. So-called relapses are, he maintained, the result of the statical equilibrium between the load and the support not being perfectly restored. So long as this abnormal relation subsists, the use of the limb must tend to displacement of the parts, but when they are once brought into perfect correspondence, and have adapted themselves to the rectified position, this tendency ceases, since the effect will not follow in the absence of the cause. He also held, and his opinion has been remarkably confirmed by the experience of his successor, that however advanced the age of the patient, and complete the ossification of the bones, there exists still almost unimpaired a "transformative power," or a power of moulding the opposed surfaces of the bones by the ordinary processes of absorption under pressure, and of nutrition generally, to the conditions and relations under which they may be placed naturally or by artificial means. To this transformative power is due the progressive aggravation of the deformity when left to itself, on the one hand, and the tendency to relapse when but imperfectly rectified, and, on the other, the successful treatment of the worst and oldest cases that he and von Büngner have achieved. Among these have been cases of congenital club-foot of the very worst kind in adults of from twenty to fifty years of age. One was a man, aged twenty-four, with extreme double congenital club-foot, for which no treatment had ever been attempted, and which would hitherto have been considered absolutely hopeless. The ovus were turned upward and backward, the dorsum of each foot resting on the ground, above which the toes, pointing inwards and backwards, were raised at least 4 or 5 inches, and three or four others were nearly as bad.

The treatment, followed with complete success in all, was as follows:—The patient being placed under chloroform, the foot was forcibly flexed to the utmost degree possible and fixed in the new position by a bandage of water-glass, which is much harder and more durable than plaster. Thus partially relieved, the patient was allowed to walk as well as he could, thereby continuing the pressure in the desired direction and developing the muscles of the leg and foot. After some weeks the procedure was repeated, more complete rectification being obtained until a cure was effected. The patient whose case we have described was taken in hand in May, 1887. In July he could walk without a stick, and was allowed to return home. In November the procedure was repeated, and by the end of July, 1888, or fourteen months from the commencement of the treatment, the cure was perfect. He wore ordinary boots, could walk for an hour without fatigue, and when the feet were covered by socks they did not show the least indication of the previous deformity. We may observe that water-glass is silicate of potash or of soda, the former being the harder, and soluble only in boiling water. In England it is only to be had in the form of dry crystalline masses very hard of solution; but in Germany, where it is much used for architectural purposes, it is sold in a gelatinous or size-like condition, far more convenient for use.

MULTIPLE NEURITIS.*

MANY points about etiology and pathology of peripheral neuritis are still obscure, so that fresh observations are of value. The present paper is illustrated by five clinical cases, which are fairly representative of the various types of the disease, and also of certain unusual phenomena. The wide ground covered by a consideration of this affection may be gathered from the number and diverse nature of the causes to which it has been attributed.

Dr. Magee remarks that every hospital physician must now and then come across cases of paralysis, more or less involving motion and sensation, but which he has great difficulty in referring to any of the generally accepted pathological conditions of the brain and spinal cord. The chief symptoms that tend to distinguish them from paretic conditions of the brain are early pain and paralysis, having a symmetrical distribution in the extremities, and followed by degeneration of muscles. The disease is usually chronic, and terminates after months, or even years, in more or less complete recovery. The writer had a case of acute ascending paralysis of Landry, which, adopting the conclusions of Dr. Ross, he refers, not to an ascending central myelitis, but to an acute peripheral neuritis. It is not that form, however, that he wished to bring under notice, neither what may be

* Paper in Sect. Medicine, Royal Academy of Medicine in Ireland, Nov. 21, 1891. *(Dublin Journal Med. Science*, Jan. 1891.)

called the "infectious" and the "toxic" varieties, but rather the chronic or sub-acute disease attacking the extremities symmetrically. Briefly summed up, the pathological condition is one of inflammatory and degenerative changes in the peripheral nerves, usually of corresponding limbs. The spinal cord, as a rule, is unaffected, although at times it is the seat of a chronic and probably coincident myelitis. The nerves that usually suffer first, and also most severely, are the anterior tibial in the leg, and the musculo-spiral in the arm, but at other times all the nerves of the limb are involved. These facts readily account for the occurrence of motor paralysis and of sensory irritation as prominent symptoms; while the "drop" wrist and dropped foot are explained by the special involvement of the musculo-spiral and anterior tibial nerves.

One of the cases is acknowledged to be exceptional in several points—to wit, the presence of the tendon reflexes, faradic excitability of muscles, and the very moderate degree of muscular paralysis of the wrists and ancles. The writer, however, is at a loss to know under what other pathological conditions it could find a place; "since the history of its onset, its distribution, course and progress to recovery, removed it from all central diseases of brain or spinal cord." Dr. Buzzard is quoted to the effect that now and then the knee-reflex may not only be present, but may exist in a somewhat exaggerated form. The same authority records a case of Dr. Oettinger, where the patellar reflex was "notably exaggerated." In the latter instance, however, the phenomenon disappeared, and in the absence of further information one might surmise it to depend on the acute inflammatory stage of the neuritis. In the case given by Dr. Magee the symptom appears to have been present three months after pain and tenderness had been felt acutely in the hands and feet. The age of one patient, twenty-three, is noticeable, the commoner age of those affected being from thirty to fifty. The question of diagnosis in another case lay between multiple neuritis and spinal meningitis. "The preceding pains of some months' duration, followed by motor paralysis, atrophy, and the loss of sensation, might be referred to either causation; but the symmetrical neuralgic pains of the knees and tibiæ, the absence of all spasms or muscular contractions, the 'drop' feet, the perspiration of the feet, the glossiness of the skin of the digits, and of the dorsum of the feet, along with the loss of the patellar reflex and the presence of complete control over the bladder and rectum, formed a group of symptoms which belonged to multiple neuritis, and which could not be produced by any central lesion so far as I know." A well-marked case of alcoholic origin showed the unusual symptom of loss of control over the function of the bladder. This fact is of importance, as the absence of bladder symptoms has always been looked on as one of the chief points in the differential diagnosis of peripheral from central paralysis. Without speculating on any theory of explanation, the writer simply records the fact, and waits to see if incontinence of urine may not possibly be found an occasional symptom of the disease.

"The prognosis in every case of multiple neuritis may in general terms be stated as favourable to its ultimate issue, but each case must be measured by the limits of its causation, the amount of paralysis, and the general health of the patient. Some cases may recover rapidly, others more slowly, perhaps extending over three or four years. Some may recover completely, or others, again, incompletely, leaving deformity from contractions of muscles. It has been frequently noticed that pulmonary phthisis has been a concomitant, and often an actual cause of a fatal issue in multiple neuritis. This coincidence, if not relationship, should not be lost sight of in dealing with the subject of prognosis."

COCAINE ANÆSTHESIA.*

M. Reclus has been in the habit of using cocaine for all kinds of surgical operations, and he gives details of the method by which it can be employed safely and effectually. First, as to the means of obtaining complete anæsthesia. This varies with the region. On mucous membranes, such as the conjunctival or buccal mucous membrane, or the vulva, a simple tampon of wool, soaked in a solution, suffices, at the end of some minutes, to produce superficial anæsthesia. For the skin, it is necessary to employ interstitial injection. He insists on the injection being interstitial, meaning thereby that the injection must be made into the substance of the skin itself, and not into the cellular tissue. According as the needle penetrates the skin, the piston of the syringe is to be pressed, so that the solution is distributed along the line of puncture, and anæsthesia, in some sort, precedes the puncture by the needle. When the time of insensibility furnished by the puncture with the needle is not long enough for the necessary incision, a second puncture is made, starting from the point which the first has reached. The little whitish ridge left after the puncture indicates the line along which the incision must be made. In this manner complete anæsthesia is obtained. It is as complete in inflamed skin as in healthy, notwithstanding what has been said to the contrary, but a somewhat larger dose of cocaine is necessary with inflamed skin.

The galvano-cautery can be used under the anæsthesia of cocaine just as well as the knife. M. Reclus has removed the tongue with the galvanic "écraseur," without pain. In most cases anæsthesia of the skin is sufficient without making injection into the deep tissues. However, if a bone has to be divided—say, in amputating the finger—a few drops should be injected under the periosteum. This, of course, will only be effectual in the case of small bones. Anæsthesia of the serous membranes is easily produced. In washing out joints for chronic hydrarthrosis, and in the treatment of hydrocele by injection of iodine, it is sufficient to inject into the serous cavity a small quantity of the cocaine solution to obtain complete insensibility. The parts through which the trocar has to pass are also rendered insensible by the injection of cocaine into the substance of the skin and the deeper tissues. For some operations special devices are needed. For internal urethrotomy M. Reclus first introduces Maisonneuve's grooved conductor, and then, using a syringe with a needle about four inches long, which is guided along the groove of the conductor, he injects cocaine into the urethra in the region of the stricture. After three or four minutes, the division of the stricture and the passage of the bougie are accomplished without pain. For dilatation of the anus he introduces a tampon of wool soaked in a two-per-cent solution. In five minutes this is withdrawn, and six injections are made

* By M. Reclus. (*Gazette des Hopitaux*, Feb. 3, 1891.)

in six different parts of the circumference of the anus, about a sixth of a grain at each puncture, taking care that the injection reaches the whole depth of the sphincter.

As to the question of the danger of cocaine injections, M. Reclus lays down rules by which he considers all trouble may be avoided. He has himself used cocaine in eleven hundred operations without an accident. He employs a two-per-cent. solution, and lays stress on the fact, which, however, he finds it difficult to explain, that with this weak solution there is less liability to unpleasant effects than when the same dose of cocaine is injected in the form of a five or ten-per-cent. solution. He very rarely injects more than one-and-a-half or two grains in all. He formerly used a five-per-cent. solution. He then occasionally noticed symptoms of nervousness, talkativeness, or of a sense of oppression, with the same dose of a grain and a-half or two grains. With the weaker solution these symptoms do not arise. There is a difference to be observed in the doses, in cases where the injections are followed by incisions, and in cases where no incisions are made. In the former case a certain amount of the cocaine which has been injected comes away with the blood after incision; in the latter, the whole of the dose is absorbed. Thus, for dilatation of the sphincter, he injects no more than a grain. He is somewhat sceptical about the cases which have been reported of intolerance for minute doses of a small fraction of a grain, after his own experience, in eleven hundred cases, of tolerance for a grain and a-half and upwards. He asks whether sometimes nervous symptoms, arising from emotional causes, have not been wrongly attributed to cocaine.

VIRCHOW AND KOCH.*

Amongst the appreciations of the effects of Koch's lymph, one of the most notable is an article in the Italian paper cited with the undermentioned heading, by Professor Maragliano of Genoa. This distinguished physician does not agree with Virchow in his inferences about the appearance of fresh tubercular deposits in the larynx after injection of the lymph, but he is inclined to give weight to the inductions of the pathologist of Berlin upon the dangerous influence which the lymph may exercise on tissues already affected with tubercle. The Italian physician considers there is a danger, both in lighting up inflammation in places where the tubercular process has stopped and in increasing the activity of ulceration already begun, and in the necrosis of tissues already infiltrated with tubercle. Dr. Maragliano says that he has been able to verify instances of patients in his clinique, in whom there were found and known to be circumscribed tubercular spots. After the injection of the lymph there appeared new spots of tubercular deposit in the same lung, and even a few days afterwards in the opposite one. The Italian physician has no doubt that the fresh activity of these centres is owing to the injection of the lymph; but he thinks that, by attending carefully to the dosage of this powerful agent, we may be able in time to avoid this dangerous side of Koch's treatment.

After commenting upon the observation of Virchow, about the growth of fresh tubercles around old ulcerations, in spite of the lymph, Dr. Maragliano observes that he does not think Koch is now entitled to say, after the observations carried on over Europe for four months, that all his assertions have been confirmed. On the 14th November Koch wrote that early cases of tubercle in the lungs could be surely cured by his method of treatment. But, in his last communication, though Koch insists upon the necrotic action of the lymph upon tubercular deposits, he does not say anything more of the immunity which he claimed against successive tubercular infections after the injection of his fluid. Maragliano is far from thinking that Virchow's communication destroys the importance of Koch's discovery, but he thinks a good many questions require to be solved before it can be used. Maragliano concludes by observing that this discovery of Koch, letting alone practical and therapeutic significance, has opened an inexhaustible field to scientific researches.

* *Gazzetta degli Ospitali*, No. 7, 1891.

Selected Papers.

Anatomy and Physiology.

CONGENITAL DIAPHRAGMATIC HERNIA.

By Dr. J. A. Gauthier. (*Bull. de la Soc. Anat.*, Paris, 1890, p. 533.)

The child, which was born at term, survived its birth one hour. On a *post-mortem* examination, the left side of the diaphragm was found to be deficient, the stomach, spleen, pancreas, and most of the small intestines having passed through the aperture into the pulmonary cavity. The left lung was no larger than a kidney-bean, having been arrested in its development by the pressure of the abdominal viscera. The orifice in the diaphragm was bounded in front by a circular muscular band, attached to the base of the thorax, but, posteriorly, there was nothing resembling crus or ligamenta arcuata. The vena cava passed through its ordinary aperture, but the aorta and œsophagus traversed the large orifice.

A HITHERTO UNDESCRIBED CANAL IN THE SPHENOID.

By Dr. M. Sternberg. (*Arch. für Anat. u. Entwick.* Jahrg, 1890, s. 304.)

The author describes a hitherto unnoticed canal in the sphenoid, which he calls the Canalis craniopharyngeus lateralis. It is best observed in the skull of a child of three or four years of age. It is to be found at the inner angle of the sphenoidal fissure immediately at the attachment of the outer root of the lesser wing, whence it passes inwards and backwards to open on the under surface of the sphenoid in the fissure under the processus vaginalis. This canal has been found under the following conditions in the adult:—(1) Completely and widely open as in the child (very rare); (2) as a narrow canal (rare); (3) commencement and end visible, the remainder running as a groove in the sphenoidal sinus; (4) opening directly into the sphenoidal sinus; (5) ending blindly in the bone (*a*) as a shorter or longer canal, (*b*) as a groove; (6) disappeared without a trace (rare). Nos. 3, 4, and 5 are commonly to be met with as normal appearances in the adult. The canal contains a process of con-

nective tissue continuous with the dura mater. A consideration of the comparative anatomy of the sphenoid leads the author to conclude that the canal represents a fibrous defect in the developed bony cranium; it is ontogenetically a direct remains of a fibrous defect in the cartilaginous cranium, and phylogenetically a remains of the fibrous defect in the bony cranium of lizards and of the lower mammals.

FORMATION OF THE MUSCULAR FIBRES FROM THE PROTOVERTEBRAL SOMITES.

By Dr. S. Kaestner. (*Arch. für Anat. u. Entwick.* Jahrg, 1890, suppl. bd., s. 1.)

Remak's "Ruckentafel" consists of an outer (epithelia) and an inner (muscle-forming) layer. The inner layer is composed of (1) the epithelial cells of the side-wall of the primitive vertebræ, and (2) of muscular cells, both of which share in equal manner in the formation of the animal musculature. The outer layer is identical with the earlier dorsal wall of the primitive vertebra. It consists of a single-layered epithelium, which differentiates itself into two portions:—(1) Muscle-forming cells, spherical in shape, which wander into the inner layer, and (2) proper epithelial cells, which do not change their position. As to the relation between muscle-forming cells and true epithelium, it may be said that originally only epithelial cells were present, and that subsequently a part gradually alters into muscle-cells. At a later stage (in chicks at the fourth day) both layers of the dorsal plate are separated from one another by parablastic tissue, which enters from without. The muscle-sheet, therefore, preserves its connections, the epithelial is destroyed; its constituents, the epithelial cells, disappear within the connective tissue, or, more possibly, change to the skin-musculature. Of the epithelial sheet of the dorsal plate there remain spared from the solution "auflosung" the dorsal and ventral ends (the muscle-buds), whose destination it is to provide animal musculature for the remote parts of the trunk. As to the measure of the participation of the dorsal plate in the formation of the animal musculature, so much may with safety be said that (1) the dorsal plates provide musculature for a greater part of the body than they themselves occupy, and (2) that they assist in the formation of the muscular system of the extremities (since ventral muscle-buds enter the rudiments of the extremities). That muscles form in birds, in the rudiments of the extremities, independently of the dorsal plate, Paterson has recently shown.

THE INFLUENCE OF BLOOD-LETTINGS ON THE ANIMAL SYSTEM.

By Professor Ivan M. Dogiel. (*Vratch*, No. 2, 1891, p. 50.)

At the Fourth General Meeting of Russian Medical Men, held at Moscow, Professor Dogiel, of Kazan, has read an interesting paper on the subject, based upon an extensive series of experiments on animals (mainly on dogs, but also on rabbits and frogs). The researches, conducted by him conjointly with a medical student, Mr. Kazemgex, justify laying down the following propositions:—(1) Dogs can survive, without any permanent injury to their health, after having lost from one-seventh to one-half of the animal's total mass of blood at a time. The extraction of two-thirds of the total, however, is invariably followed by death. (2) Blood-letting manifests a sharply pronounced influence on the frequency of the cardiac beats in the case of a moderately large depletion (from one-seventh to one-third of the total quantity of blood), the cardiac action becomes accelerated, while after larger losses it either quickens, or becomes slower. (3) Blood-lettings also produce a marked effect on the rhythm and energy of the cardiac contractions (as details). (4) Mild bleedings (made by means of ten or fifteen leeches) either do not alter the arterial tension, or slightly raise it. More or less considerable arterial bleedings either do not affect the blood-pressure, or are followed by a fleeting initial fall with a subsequent rise, while venesections commonly lower the tension. (5) After moderate depletions "the pulse-wave acquires a periodical character." (6) In the beginning of a bleeding the bodily temperature slightly rises, then sinks about 20°, and afterwards again gradually rises. (7) On repeated depletions (made every three or four weeks) the bodily weight at first increases—and that sometimes "very considerably"—but later on begins to sink. (8) The same holds true with regard to the numerical strength of red blood-corpuscles. (9) On the *post-mortem* examination of animals dying from bleedings, the most prominent feature proves to be a fatty degeneration of the heart and other striated muscles, as well as various viscera. In the course of a discussion, Prof. A. B. Vogt and Dr. S. M. Shtcherbakoff have stated that, according to their experiments, bleedings do increase, not only the number of red blood-corpuscles, but also the proportion of hæmoglobin.

ON THE INFLUENCE OF STRYCHNINE ON THE GASTRIC FUNCTIONS.

By Dr. Serghei F. Hamper. (*St. Petersburg Inaugural Dissertation*, 1890-91, No. 17, pp. 95.)

Following the suggestion by Professor D. S. Koshlakoff, Dr. Hamper, of St. Petersburg, has carried out a group of elaborate experiments in order to elucidate the action of strychnine, given internally, on the stomach. The observations were made on seven men (including the author himself), aged from twenty-two to fifty-six, of them five being quite healthy, while the sixth was suffering from dilatation of the stomach, with hypersecretion of the gastric juice, and the seventh (the author) from chronic mucous gastric catarrh. The observations lasted in individual cases from twenty-two to thirty consecutive days, consisting of three stages, during the second of which (embracing from six to eight days), the subject was receiving nitrate of strychnine (in gelatine capsules), in gradually ascending doses of from 2 or 5 milligrammes to 12 or 15. As a rule the drug was taken once daily with the subject's breakfast. In a few cases, however, it was administered from 2 to 5 milligrammes three times a day. The following are the principal corollaries deduced by the writer from his laborious investigations:—(1) Both in the healthy and sick, strychnine invariably increases the secretion of the gastric juice, the surplus being considerable and rising with the dose. [For instance, in a case where the quantity of the juice, obtained at the height of the digestion, had amounted only to 70 cubic centimètres, it rose, after a strychnine course, up to 160; in another, it increased from 60° to 140°, etc.] (2) In the healthy, the alkaloid also augments the general acidity of the

juice, the surplus similarly rising with the dose, and averaging 0·05 per cent. [The acidity also increased in the hypersecretion case, but remained unaltered in that of the catarrh, in which it was dependent upon lactic, and not upon hydrochloric, acid.] (3) In the healthy, the proportion of free hydrochloric acid is augmented, the increase being parallel with that in the general acidity, and averaging 0·05 per cent. [The same was observed in the hypersecretion case, while in the catarrhal one no free hydrochloric acid could be detected even after a strychnine course.] (4) The alkaloid does not manifest any marked influence on the proportion of the lactic acid. (5) But it distinctly intensifies the digestive power of the gastric juice (with the exception of the catarrhal case), which should be attributed to an increased proportion of free hydrochloric acid therein. (6) The action of strychnine on the rennet-ferment seems to be inconstant and but slight. [Still, in a majority of cases, the drug ; somewhat accelerates the curdling of milk.] (7) Both in the healthy and sick, the absorptive power of the stomach is always considerably increased. [As usual, the absorption was determined by means of iodide of potassium, given internally. After a dose of strychnine, the iodide could be detected in the subject's saliva, on an average, five minutes earlier than under normal conditions.] (8) The same is true in regard to the motor power of the organ. [It was tested by the internal use of salol. In the healthy, salicyluric reaction (in the urine) appeared, on an average, thirty-four minutes, and disappeared five hours, earlier than under ordinary circumstances. In the sick, the acceleration was even still more striking.] (9) The effects of strychnine persist for some time after discontinuing the drug. The secretory functions of the stomach return to the standard in from eight to twelve days after the last dose, the absorptive and motor powers in from two to twelve. (10) The action of the alkaloid on the stomach should be, probably, ascribed to its increasing reflex excitability of the cerebral and spinal gastric centres. [Dr. Hamper's interesting monograph is furnished with a welcome supplement in the shape of a list of works, dealing with the enormously swollen chapter on the biology of the stomach. The said list, arranged in chronological order, embraces as many as 356 papers, of which 343 have enriched international literature in the course of the period of from 1880 to November, 1890. And still the author's valuable collection is exceedingly far from being exhaustive, since it includes mostly only German (237 Nos.), French (35), and Russian (73) papers. The British literature is represented therein by the modest figure 3, the works mentioned being (*a*) Langley's, on the pepsin-forming glands (quoted from second hands—from Virchow's *Jahresberichten*); (*b*) Langley's and Edkin's, on pepsinogen and pepsin (*ditto*); and (*c*) Fowler's, on pepsin (*ditto*). We cannot help drawing the author's attention that his catalogue, apparently pretending to be complete, could be easily supplemented by some few more English (British and American) papers. Supposing even that the original texts might be inaccessible, he could dig out one thing or two from Russian periodicals, systematically teeming with abstracts from, and references to the English literature.—*Reporter*.]

Damages for Defective Drains.—In the City of London Court, a Mr. Bebb succeeded in enforcing counterclaim and costs against his landlord for damages accruing from his having been induced to take a house, the drains of which were thoroughly disorganised.

Surgery.

MAMMARY ABSCESS IN THE VIRGIN.

By Dr. Marcus.

(*Cincinnati Lancet Clinic*, Jan. 17, 1891.)

This is an interesting account of a condition of the rarest occurrence in virgin women, the patient being a girl, aged seventeen, usually in the enjoyment of excellent health. There was no history of injury to account for the mischief, nor any menstrual irregularities sufficient to explain it. Pain of a lancinating character was, for some time, the only symptom present, but eventually inflammatory changes supervened, and on aspirating the gland deep-seated suppuration became evident. Incision resulted in evacuation of two teacupfuls of pus, and a fistulous track still remained at the end of two weeks, while somewhat later the breast again swelled, reddened, and was intensely painful. Under chloroform, the gland was now freely opened, when all its lower lobes were found to be honeycombed with abscesses, deep sacs existing over the pectoralis major. The tissue was thoroughly scraped, the abscesses broken up, drainage-tubes inserted, and iodoform gauze dressings applied, the case ultimately doing well.

A CASE OF ACTINOMYCOSIS.

By Dr. A. J. Ochsner. (*Med. News*, Jan. 24, 1891.)

A case of actinomycosis, in a farmer, aged fifty-three, in which operation appears to have been followed by recovery. The infection was probably introduced through decayed teeth, and originated from a horse which the farmer had been treating some time for "stumpy jaw," without being aware of the dangerous risks attending such attention. For eight months he endured a good deal of pain, which was unrelieved after extraction of four teeth supposed to be exciting it, the affected region being the left antrum of Highmore. An abscess formed and pointed in the cheek, and on being opened pus, containing the characteristic actinomycosis organism, was exuded. Some time later, the whole of the soft tissues that were involved were removed, the outer surface of the antrum chiselled away, the cavity thoroughly curetted and swabbed out with a ninety-five-per-cent. solution of carbolic acid, and then packed with iodoform gauze. This wound healed, but two months later an œdematous mass appeared above the left ear, which, being opened, also gave exit to pus and the clusters of actinomycosis. The same course of treatment was adopted with this growth also, and the case subsequently did well, though it had not been long enough under observation to make it certain that the parasite has not invaded some other part.

ENLARGED THYROID CAUSING ASPHYXIA.

By Dr. Malcolm Webb. (*The Australian Medical Journal*, vol. x., No. 2.)

Dr. Malcolm Webb reports a case of a young woman who came to the Manchester Infirmary suffering from urgent dyspnœa, due apparently to pressure of an enlarged thyroid gland in the trachea. All the symptoms of some obstruction of the air-passages were present. As the exceeding difficulty of breathing rendered asphyxia imminent prompt operative

interference became necessary. The question of the site for the incision was difficult to decide, owing to the thyroid enlargement reaching almost down to the sternal notch. To cut through the growth would be to risk severe hæmorrhage. As the patient was becoming moribund, a median incision was made, at hazard, through the skin and deep fascia, when the enlarged gland immediately sprung forward into the wound. Air at once entered the chest, and the patient obtained speedy relief. The entire gland was subsequently removed, the girl making a good recovery.

PAINLESS CIRCUMCISION.

By G. W. Overall, M.D. (*N. Y. Medical Record*, February 10, 1891.)

The patient should not be allowed to see the operation, and in the case of a child the instruments are concealed. The patient is then placed upon his back, and a small pillow laid on his chest, so that he cannot see over it. A rubber band having been placed over the penis, half-an-inch or so from the corona, to limit its effects, a few drops of a freshly-prepared thirty-per-cent. solution of cocaine are injected, with a small blunt-pointed syringe, into the preputial orifice, at the same time holding the end of the prepuce with the left hand, to prevent the escape of the fluid. He then presses upon the fluid with the right hand to bring it into contact with the entire mucous membrane, keeping it in for five or six minutes, when the mucous membrane is completely anæsthetized. He then introduces carefully his hypodermic needle through the preputial orifice, and penetrates the mucous membrane, injecting a few drops of cocaine. He then moves it to another part and repeats the injection. It necessarily requires caution to prevent puncturing the integument, which would cause pain. He mentions the case of a child six years old, very small, nervous and excitable, upon whom he operated while he was discussing with his mother the kind of toys he would get for Christmas. He also operated upon a boy fourteen years old (using silk-gut ligature), and he did not feel the slightest prick of the needle. He returned home the same evening and recovered without a bad symptom. He remarked that it is always better to use a ligature that does not require to be removed.

THE INDICATIONS FOR TREPHINING IN EPILEPSY.

By Dr. J. C. Minor. (*New York Medical News*, Jan. 3, 1891.)

By the administration of drugs, and the careful regulation of diet, exercise, and general hygienic measures, Dr. Minor is of opinion that we may hope to cure, medically, about one-half of all cases of epilepsy, which experience had shown was not an affection that disappears spontaneously. It was among the other half that surgical interference has its field. While, however, all epileptics are subjected to medical treatment, only a small proportion of those unrelieved by such treatment came under the observation of the surgeon. Of these, a majority were rejected, as not appropriate subjects for the operation; but of those who were operated on, more than one-half were cured, over one-sixth were relieved, about twenty per cent. died, and about three per cent. were neither better nor worse for the operation. Within the last two years the mortality had been largely decreased by the application of antiseptics to brain surgery, and the favourable results had increased in equal proportion. The conclusions reached by Dr. Minor from his study of the subject were that there are three main indications for trephining in epilepsy that hold good, provided medical treatment, or the removal of peripheral irritation by other methods, fails to cure or relieve:—"(1) In the distinctly traumatic epilepsies following depressed fractures and other lesions of the skull. (2) In the traumatic epilepsies in which the only visible lesion consists of a scalp-wound that is sensitive or tender, and upon which pressure developes either an aura, vertigo, or an epileptic seizure. (3) In all epilepsies, whether traumatic or not, in which the character and development of the seizures are such as to indicate a definite motor area as the seat of a cortical lesion." The contraindications are briefly those that might be applied to cases of such long duration as to lead to marked mental degradation, to cases in which from the first the seizures had been general and sudden, to cases where the general symptoms indicated an extensive cerebral degeneration, and to cases where, in addition to any or all of these conditions, there was nothing in the symptoms or history of the case to indicate a definite or circumscribed lesion of the cortex that could be reached and removed.

TREATMENT OF CARCINOMA OF THE BREAST.

(*Gaillard's Medical Journal*, Jan. 1891.)

The following remarks are drawn from the observation of upwards of a hundred cases which came under the care of Dr. Ryerson Fowler, Brooklyn. Of these no less than ten cases presented themselves when the advanced stage of their disease rendered operative interference unjustifiable. Sad to record, in four instances of the ten, the patients had been assured by their own medical attendants that the growth need give no grounds for apprehension, being of an innocent character. The entire number were females, the writer never having met with cancer of the breast in the male. In sixty-four, whose cases are most carefully revealed, the average age is set down at 51·4 years; the youngest patient aged 22 years, the oldest 67. Two cases are described as virgins; forty had borne children. In eleven cases a traumatic origin was clearly indicated, the disease appearing, without exception, within a year of the injury. A distinct history of heredity was elicited in ten cases. Retraction of the nipple was observed in sixteen out of thirty cases, and immobility of the breast was found in thirteen of the forty-five cases operated on. The complete operation—opening up the axilla—was performed in thirty-six. In clearing the axilla every trace of lymphatic tissue observable was removed. This is noteworthy, for of seven cases which subsequently returned for re-operation, only one had been treated in this way. Recurrence occurs on an average within eight months. In patients who were not operated on, the average duration of life from the onset of the disease was a year and five months.

The writer then goes on to remark that in cases where only one breast, from some cause, had been available for lactation, it was invariably the one attacked. This, with the fact that multiparæ are most often affected, seems to show that the increased physiological action predisposed to disease. In cases

of operation, where the pectoral surface of the detached gland was found affected by the neoplasm, recurrence is almost sure to occur. It must not be supposed that the extent of the infiltration is limited to the site of the hardened nodule. Indeed, it is asserted, a gland once diseased is diseased *in toto*. Much stress had been laid upon the presence or absence of secondary lymphatic involvement, a much more serious channel of infection existed in the retro-mammary lymph-channels of the pectoral fascia, which, if affected, is always of serious import, owing to the difficulty of totally removing this structure. Early operation generally assured the patient of at least another year of life.

INFLAMMATION IN AND ABOUT THE HEAD OF THE COLON.

By Dr. L. S. McMurtry. (*N. Y. Medical News*, Jan. 10, 1891.)

The comparative frequency and importance of this class of affections, as well as their amenability to treatment, render all careful observations of special value. Dr. McMurtry has had a large experience in the operative treatment of these cases. It is well known, he says, that inflammatory changes in the vermiform appendix are, in almost every case, the origin of the inflammatory diseases about the caput coli. Although inflammation of the cæcum may undoubtedly occur, yet it is very rare; the relative frequency of cæcitis and appendicitis has been estimated roughly as 1 to 200, practically speaking; localised peritonitis about the head of the colon is, with very rare exceptions, caused by inflammation of the vermiform appendix. The old teaching, that the cellular tissue around the cæcum may be inflamed and abscess result without involving the peritoneum, has been proved to be misleading. When inflammation of the appendix occurs with its attendant peritonitis, adhesions glue together the adjacent coils of intestine and cut off the general peritoneal cavity. Just as in pyo-salpinx, the diseased structures are intra-peritoneal, and operation for either involves abdominal section. Appendicitis may vary in degree from a simple catarrhal inflammation to perforation and complete gangrene of the organ. Its progress may be acute or chronic, and its lesions various, such as thickening, stricture, adhesions, cystic formations, perforation or sloughing. In the writer's belief, fæcal concretions, catarrhal inflammation, obstruction, and retention, are the initial steps in inflammatory lesions of the appendix, to which the peritonitis, known as that of contiguity, is added. The lesions and their results are very similar to those of purulent salpingitis. The pus may break down adhesions and cause a general peritonitis, or it may burrow to some distant point, but its origin is nevertheless always intraperitoneal. The diagnosis of appendicitis, with any estimate of the extent and severity of the lesions, is not only exceedingly difficult, but, as a rule, impossible. That even severe lesions escape notice, or are treated as simple intestinal disturbances, is beyond a doubt. Tympanitis is of little value as a symptom. Pain is constant and often localised. The patient lies on his back, and usually draws up the right leg. Rectal examination is rarely of any use. Rigidity of the abdominal muscles, especially of the right side, is nearly always present, and is a valuable sign. Rigors, fever, and vomiting may be present or absent. Suppuration declares itself in the usual way, and perforation may occur without additional symptoms. The author arrives at the following conclusions:—(1) Inflammation about the caput coli is, as a rule, appendicitis. (2) A certain number of cases will recover spontaneously by resolution; with these recurrence of the disease is common. (3) In the larger proportion of cases the disease endangers life, and may at any moment assume a practically hopeless condition. (4) Operation involves less danger than delay, and should be resorted to in all cases where a high grade of inflammation is persistent. (5) The essentials of the operative technique are brief anæsthesia, quick and thorough work, removal of the appendix, irrigation and drainage. The lateral incision is preferable to the median.

ON RADICAL OPERATION OF ABDOMINAL HERNIA.

By Dr. F. Wolf. (*Oesterr.-Ungar. Centralblatt für die Med. Wissenschaften*, No. 5, 1891.)

Dr. Wolf draws attention to Prof. Scheede's report of 165 operations of abdominal hernia. Of these, 61 were incarcerated inguinal hernia, and 64 incarcerated femoral hernia. In only 41 per cent. was there no reaction in the wound after radical operation of incarcerated hernia, and in 35 per cent. of the not incarcerated cases. Wolf pleads strongly for omitting drainage, if at all possible. The average period of healing is twenty days in carcerated hernia, and in others twenty-one days. Two per cent. of the patients died after radical operation. Two patients died from complications not connected with the operations. Wolf comes to the conclusion, from observations of his own and others, that a radical operation may be pronounced successful if no relapse occurs within a year. According to this standard, 25·9 per cent. of the above-mentioned patients were not radically healed; but even they were satisfied with the results of the operations, because their condition was materially improved, and they were able to go to work. The chief conditions of success of the radical operation are—ligation of the neck of the hernial sac as high up as possible, extirpation of the sac, suture of the porta, and, when necessary, division of the inguinal canal. Silver wire is the best for suture, as it causes no reaction, and supports the cicatrisation tissue. Extirpation of the hernial sac influences the result only in so far as it renders the course of the wound shorter and simpler. The bed of the hernia is united by several deep stitches of catgut (No. 1), in such a way that the surfaces of the wound meet everywhere. Then follows a superficial continuous suture of catgut. Scheede warns against washing out the wound with the irrigator, as even a gentle force of the spray causes an œdema of the loose cellular tissue of the scrotum. While Wolf does not consider that the wearing of a truss hinders the healing of the hernial porta, Scheede asserts that sometimes the pressure of the pelote induces atrophy of the cicatrix, and thus favours a relapse. Prognosis of radical healing is more favourable in the case of femoral, than in that of inguinal hernia—more favourable, too, when the hernia is small, and when the hernial porta represents a slanting canal. Of particularly great importance for final healing is the width of the porta; the wider the latter is, the less favourable are the prospects—and just in such cases sutures of silver wire are recommended. The age most favourable for healing are the years up to twenty. Hard bodily work does not seem to cause a relapse, while cachetic

conditions, with lax muscles and emaciation, are dangerous. Violent coughing after the operation, indeed, endangers the same; yet in one case, although there occurred spasmodic coughing, the results in nine days were good, and ten years after, the healing was still found to be perfect. Then Wolf goes on to determine the indications for the radical operation of free hernia. In the early years of life a conservative treatment is to be recommended, as spontaneous healing is then the rule, and the fouling of the bandages would endanger the course of the wound. From the seventh year a radical operation is preferable, since spontaneous healing can no longer be reckoned on, and the conditions are most favourable for a good result. Yet up to the twentieth year smaller ruptures that give little trouble may be treated conservatively. Beyond the latter age a radical operation should be always recommended, for after the complete development of the body the likelihood of spontaneous healing may be excluded. In irreducible hernia, and such as cannot be kept back by a truss, the radical operation should be strongly recommended to the patient. Contra-indications are cachetic conditions, especially in old people with uncommonly large ruptures.

THE CURETTE IN FISTULA IN ANO.

By Dr. Cates B. Brabson. (*Philadelphia Med. and Surg. Reporter*, Jan. 24, 1891.)

In a paper read before the Knox County Medical Society, the author advocated a somewhat novel method of treating fistula in ano, namely, by the use of the curette. In introducing this method to the notice of the profession, there was not the least idea of advocating any superiority over the knife. The chief advantage claimed was that nervous patients might in some cases be willing to submit to the use of this instrument where they would not consent to a cutting operation. As a matter of fact, the distinction between the two procedures is not materially great. The curette effects a cure by scraping away the tough and thickened pyogenic membrane, thereby substituting for it a healthy surface, which is capable of healing more readily. The cases specially suited for the curette require some selection; for instance, where the condition is in an early stage, or where healing has taken place except in one portion, or where there are several sinuses. An illustrative case was appended. It was that of a negro, who had been troubled with fistula in ano for two years. A large abscess cavity with four openings in the buttock, and one sinus extending into the rectum, was laid freely open. The wound healed throughout with the exception of a single fistulous tract, which extended into the ischio-rectal fossa for about a couple of inches. A second operation converted this sinus into a complete fistula, but a fistula tract was left after healing, as in the former operation. Some months later several injections of tincture of iodine were made into the fistula, but with negative results. The following procedure was then resorted to:—A four-per-cent solution of cocaine was injected into the tract, so as to completely deaden sensibility; the external opening was then enlarged with a probe-pointed bistoury until sufficiently large to admit of the introduction of a curette; the fistula was then thoroughly scraped out, irrigated with pure water, and packed with lint. Five weeks afterwards the operation was repeated, the patient in the meantime being allowed to go about and do as he pleased. Six weeks after the second scraping the patient was dismissed cured, and has remained well ever since, many months after the operation. This method has the advantage of being painless, of avoiding the use of the knife, and is certainly worthy of a more extended trial.

FOREIGN BODIES IN THE BLADDER.

By Dr. P. Bazy. (*Annales des Maladies des Organes Génito-Urinaires*, Jan. 1891.)

M. le Dr. Bazy reports four curious cases of foreign body in the bladder; three of these were operated on by himself, the fourth by others.

Case I.—A woman, aged sixty-five, had symptoms of calculus. The sound revealed a mass, assumed to be a phosphatic concretion round some foreign body, although the patient's age was against this. On giving chloroform and using the lithotrite, the blades easily crushed the substance, but the blades could not be closed completely, nor could they be opened again without difficulty. With a little trouble the lithotrite was removed, when the blades were found to be charged with a mass of linen thread. The patient could not, or would not, give any information as to how the substances had been introduced into the bladder. The covering of phosphates showed that it had evidently been there for some time. Recovery was complete.

Case II.—This case is still more singular. A man, aged forty, had symptoms of severe cystitis. He said he had a "pig's-nerve" in his bladder. After washing out the bladder—the contents were horribly fetid—careful sounding revealed no foreign body; but, finally convinced that there was one present, Dr. Bazzy next day introduced the lithotrite, and succeeded in grasping and removing a boar's-penis, 30 c.m. in length. The patient rapidly recovered: he alleged that it was introduced during an attack of difficulty of micturition, and that it had escaped into the bladder accidentally. Its sott organic consistency rendered it a difficult object to find and remove.

Case III.—A woman, aged thirty, could not urinate, and confessed that on the previous day she had introduced the bone handle of a lace crotchet-hook, where—she was not exactly sure. A forceps easily grasped it, but it could not be extracted at once. A Collins' straightener engaged it in the urethra, whence the forceps removed it. Its surface had been rendered very irregular by the patient. It was 9 c.m. long.

Case IV.—Drs. Trilhe and Monsarrat report this case. A girl, aged twenty, had an intense cystitis, and confessed that she had introduced a lead pencil into the bladder. She was anæmic and emaciated, and through examination was impossible except under chloroform, when *per vaginam* a rounded tumour was felt in the lower part of the bladder. A pair of ring forceps was introduced, the body ascertained to be free (it was about the size of a small hen's egg), and the incrustation gradually broken up, till a hard nucleus was reached. This was grasped in various ways, till it at last bent in the middle, and was removed folded on itself. The operation lasted seven or eight minutes.

The second case is the most astonishing and incredible of the kind that Dr. Bazy ever heard of. A urethral canal was clearly made out in it, and it has been presented to the Surgical Congress.

Practical Observations.—A supra-pubic operation has often been performed for the removal of soft

sounds and catheters from the bladder. But there is no comparison between such an operation and removal *per urethram*. No chloroform was required; all the operation, including washing-out before and after, was over in ten minutes (in the second case), and the patient left cured in two days. The instrument made by Collin for the author for the purpose of removing soft bodies from the urethra differs from the lithotrite, inasmuch as *the female blade is narrower than the male blade*. Hence any soft body grasped by this is bent in the middle in such a way that its two parts tend to move together in the same straight line *away from* the wrist, whereas in the lithotrite, when a body is bent in the middle, its two parts approximate *towards* the body of the instrument. With small bodies this may not be of much importance, but if the body be of considerable thickness it becomes of extreme importance. The following is an example of the use of the above:—A colleague was examining a patient with a red-rubber sound, when, on removal, it broke in two, owing to a sudden nervous movement of the patient. Forceps could not remove it, and Dr. Bazy then, to his colleague's surprise, pushed it completely into the bladder, and thence easily removed it by the above "redresseur."

Medicine.

BROWN-SEQUARD'S FLUID *v.* KOCH'S LYMPH.

By Dr. D. Uspenski. (*Deutsche Medizinal-Zeitung*, Dec. 29, 1890.)

Dr. D. Uspenski, in a lecture recently delivered before the Society of Public Hygiene, gave an account of some clinical experiments which he had made with Brown-Séquard's "emulsion" in the treatment of tuberculosis. He had tried this preparation in eighteen patients in different stages of the disease. Two of them had been quite given up. He considers that Brown-Séquard's fluid has a markedly strengthening effect, and is beneficial in all cases of phthisis without exception, whether the patients have any additional treatment or not, and whether they live under favourable conditions or the reverse. The tubercle bacilli do not disappear entirely, even in the most successful cases, but diminish in number in proportion to the extent to which the diseased process recedes. Uspenski says the remedy does not kill the bacilli, but weakens their pathogenic power—not the sort of recommendation likely to create a *furore* for this particular remedy, seeing how misleading must be such attempts to guage the varying pathogenic powers of these organisms.

KOCH'S LYMPH IN LEPROSY.

By Dr. Goldschmidt (Madeira). (*Berliner klin. Wochenschr.*, No. 2, Jan. 12, 1891.)

Koch's lymph against tubercle was tried in five cases of leprosy. Of these four were of the tuberculosis, one of the anæsthetic (nervous) character, and the following are the author's conclusions:—(1). Injections of less than one milligramme had no effect. (2) One milligramme caused in three cases a general effect in twenty-four hours; in two of these cases also a local effect. (3) Larger doses (less than a centigramme) caused febrile temperature in four cases; in one case with a remarkable low reaction. (4) Koch's remedy is not diagnostic solely of tuberculosis. (5) There were no reasons for assuming that any tubercle-deposits were present in any of the cases. (6) Used locally, the fluid appears to irritate leprous more than healthy skin. (7) The mucous membrane showed no reaction. (8) The case of "nervous" leprosy showed both general and "slight" local reaction. (9) In one case the reaction was of progressive character, accompanied by regular rise of temperature.

CONTRA-INDICATIONS TO THE USE OF KOCH'S LYMPH.

By Dr. V. Gilbert. (*Revue Médicale de la Suisse Romande*, Dec. 20, 1890.)

Although Koch's lymph is only as yet on its trial, and a considerable time must elapse before any final conclusion can be come to as to its value, already many contra-indications to its employment have been established. Dr. Gilbert formulates the following contra-indications:—(1) Miliary tuberculosis; this form of the disease has, under the influence of the inoculation, been observed to take on a rapid course. (2) Phthisis in the third stage, which has already furnished several deaths from the treatment. (3) Tubercular disease accompanied with marked fever. (4) Tubercular subjects who are in a very weak or prostrate state. (5) Intestinal tuberculosis, which has already furnished one death from perforation while under the treatment. (6) Tubercular meningitis. (7) Frequent and severe hæmoptysis. (8) Congestive forms of tuberculosis. (9) Tubercular subjects affected with amytoid disease of the kidneys.

CASE OF PRESSURE PALSY.

By Dr. C. S. Potts. (*University Medical Magazine*, February, 1891.)

In the *University Medical Magazine* for July, 1889, the writer reported three cases of pressure palsy occurring in muscles not usually involved—viz., one of the muscles supplied by the ulnar nerve, another of those supplied by the external popliteal, and the third of those muscles deriving their innervation from the anterior tibial. To these he now adds a fourth—*i.e.*, of a palsy due to pressure upon the circumflex nerve. In the literature bearing upon the subject no mention of a similar case could be found, and Prof. Wood remarked, when showing the case to the class, "that it was the only case of the kind which he had ever seen." This alone is a sufficient guarantee of its rarity. The history of the patient is, briefly, as follows:—"T. T., aged forty, single, and a blacksmith by occupation, came to the Nervous Dispensary, complaining that, four weeks before, after drinking heavily all day, he went to bed, and on awakening the following morning found that 'he could not lift his left arm above his head.'" On examination, it was found that the patient could elevate the arm only to a very slight degree in any direction. All other movements conld be performed without difficulty. The deltoid was flabby, and reactions of degeneration were present. There was no pain and no tenderness on pressure over any of the nerve-trunks; sensation was not affected. Under the use of strychnia and galvanism he made a good recovery in a few weeks. As to the cause of this palsy, it is probable that he laid upon his back so close to the side of the bed that

the edge of the sideboard exerted continuous pressure upon the circumflex nerve where it winds posteriorly around the neck of the humerus.

THE ETIOLOGY AND SURGICAL TREATMENT OF SUPPURATIVE TONSILLITIS.

By Clarence C. Rice, M.D. (*New York Med. Rec.*, Jan. 31, 1891.)

The author discusses the etiology and prevention of inflammatory disorders of the throat, more particularly that known as "suppurative tonsillitis," and arrives at the following conclusions:—(1) That the tonsils, like other lymphoid tissue, are blood-elaborating glands. (2) That when they are in normal condition they probably perform a second function by reason of the large number of leucocytes contained in them, and this function, if not aggressive, at least possesses the power to prevent the entrance of pathogenic germs through the crypts of the tonsil. (3) That when the tonsils have ceased to perform their function, by reason of such pathological conditions as interstitial thickening and occlusion of the lacunæ of the glands, they probably present open-mouthed viaducts through which pathogenic germs may pass to the lymphatic circulation. (4) That all kinds of tonsillar inflammation are due to septic causes, or in other words to specific germs, and that those causing follicular disease, parenchymatous disease, and peritonsillar abscess, are different from one another. (5) It is probable, therefore, that septic influences are the exciting cause of tonsillar inflammation, and that the presence of pathological tonsils—tonsils unable to perform their physiological function—is the predisposing cause. (6) That a classification of tonsillar inflammation into three varieties is sufficient, viz., follicular, parenchymatous, and peritonsillar abscess. (7) That suppurative tonsillitis is not a correct name, because the suppuration occurs in the connective tissue about the tonsils and very rarely in the tonsils themselves. (8) That, in people who possess the disposition to suppuration about the tonsils, the tonsils are either adherent to, or covered by, the pharyngeal pillars, and that this condition plays a more important *rôle* in the predisposition to suppuration about the tonsil than does the rheumatic or other diathesis. (9) That when a tonsil shows itself competent at short intervals to become inflamed or to give rise to peritonsillar suppuration, it is in a pathological condition, and should be destroyed by the galvano-cautery or by other measures.

ON THE PRESENCE OF TUBERCLE-BACILLI IN THE BLOOD, AFTER TREATMENT BY KOCH'S METHOD.

By Dr. Victor Liebmann (Trieste). (*Berliner klin. Wochenschr.*, No. 4, 1891.)

The method of examining the blood was as follows:—The various glasses being disinfected by HCl, and absolute alcohol, aud the patient's finger being cleansed with distilled water, alcohol, and ether, a drop of blood was removed by the use of a sterilized needle. The specimen was fixed (by heat) in the usual way, left for half-an-hour in carbolized fuchsin, washed in distilled water, discolorized for one minute in Gabbett's solution, and examined in (distilled) water. The above solution slightly modified consists of methylene blue 1·5, absolute alcohol 30, concentrated sulphuric acid 20, and distilled water 50 grammes. Nine patients were examined as to the presence of bacilli in the blood after injections of Koch's lymph. All reacted promptly to the treatment. In every case, well-stained bacilli were found, usually on the day after injection, occasionally the same evening. As a rule, they disappeared from the blood in two or three days. None of the patients had miliary tuberculosis. A number of tuberculous patients, who had not been treated with the injection, were similarly examined, but no bacilli were ever found in the blood. (Other observers have found no bacilli, after most careful search, and their conclusions do not agree with Liebmann's).

FIBRINOUS SORE-THROAT IN SCARLATINA: ITS NATURE, DIAGNOSIS, PROGNOSIS, AND TREATMENT.

By Dr. H. Gillet. (*Rev. Gén. de Clin. et de Therap.*, January 7, 1891.)

Clinical observation admits of the existence of various kinds of false membrane; bacteriology also would seem to confirm this. Of late, many writers have described a fibrinous sore-throat with white pseudo-membrane not of diphtheritic origin. Apparently any inflammatory process in the throat, if the inflammation exceed certain limits, may exhibit the formation of pseudo-membranes. Now, according to classical teaching, there may occur in scarlatina two forms of membranous sore-throat—one at the commencement, innocent, limited; the other at the end, very grave and extensive. It is with the diagnosis of the first condition that the present paper is concerned, for the physician is often most perplexed to distinguish this condition from true diphtheria. The differential *diagnosis* has been said to rest on the following points:—(1) The scarlatinal membrane is *usually* confined to the tonsils, and almost invariably avoids the larynx, no such limitation being observed in diphtheria; (2) temperature remains in the scarlatinal affection much higher than in diphtheria; (3) the adenitis which accompanies it often proceeds to suppuration—this latter point is only one of retrospective utility, as is also the absence of paralysis; (4) bacteriologists lay stress on the fact that in the pseudo-membranous condition none but streptococci or staphylococci can be found, while in the true diphtheritic membrane the bacilli of Klebs and Loeffler can be detected. This is, however, a point which requires some skill and practice to determine. As regards *prognosis*, the non-diphtheritic nature of the complaint will render this more favourable; but it must not be forgotten that the streptococcus which seems the cause of this secondary affection, or which at least developes in the exudation, is analogous to that which produces erysipelas, puerperal infection, and suppuration. It must be remembered, too, that the condition of the throat often indicates that the scarlatina itself is of a particularly virulent kind. *Treatment* should be directed to preventing the microbes from entering into the depths of the tissue, so as to avoid secondary infection as much as possible. For this purpose Heubner injects a 3—5 per cent. solution of carbolic acid into the tonsils and velum palati. Sevestre recommends that the parts be sprayed with either carbolic acid or naphthol water, or painted with the following mixture:—℞ Creosote, 1 pt.; alcohol, 90 pts.; glycerine, 20 pts. Care should also be taken to avoid abrading the subjacent mucous

membrane, which would increase the risk of extension to the deeper parts of the injecting microbes.

HEADACHE AND ASTIGMATISM.

By Dr. C. W. Dodd. (*Cincinnati Lancet-Clinic*, Dec. 27, 1890.)

The relation of astigmatism to headache the author does not discuss, for he regards that connection as both accepted and established. Chronic cephalalgia belongs to a difficult and obscure class of cases requiring very careful examination, and experience has abundantly proved it is often due to astigmatism. Of its various causes the most frequent are ocular defects, and such cases are often overlooked, since the eyes are not suspected of being concerned in the mischief. Patients themselves do not complain of their eyes. Moreover, not only has the close sequence of cause and effect in these cases hitherto escaped recognition, but the means of making the necessary examinations have been imperfect. This statement is specially true of the defect under consideration, which is, at the same time, the one most productive of ill effects. "Astigmatism has always been the *bête noire* of the oculist, owing to the unsatisfactory means for its recognition; so it is not surprising that the general practitioner has given it a wide berth." (The author then described the mechanism and uses of the keratoscope). Astigmatism is a condition quite distinct from myopia or hypermetropia, and must be considered apart from them. While far from claiming that all headaches are due to astigmatism, he believes it to be more often productive of that condition than any other one condition. "He did not claim that the keratoscope furnished a final test for the degree of astigmatism, but merely that it supplied a quick means for detecting its existence and position, and that afterwards it was necessary to resort to test-lenses for final determination."

A CASE OF LEPROSY.

By Dr. J. H. Bertrand. (*Philadelphia Med. and Surg. Reporter*, Jan. 3, 1891.)

The following case occurred in Wisconsin, in a patient who came originally from Norway, at the age of seven. Patient is now forty years old. His mother died of leprosy at fifty-six, after an illness of seventeen years. An uncle on the mother's side also died of leprosy. When fourteen years old patient was suddenly attacked with the disease. Pale bluish-red spots appeared over the trunk and extremities, together with loss of appetite, debility, and other constitutional symptoms. The maculæ disappeared entirely at the end of two years. Eighteen months after the onset of the disease, hyperæsthesia set in, at first over the maculæ, and then gradually involved the extremities. Towards the close of the third year the man's general condition improved, although by that time there was anchylosis of both knee and ankle-joints, as well as of the wrists and small joints of the hands. The joints of the lower extremities recovered, but those of the upper remained in the same condition, excepting some slight improvement in the wrists. After an interval of seven years he experienced a second attack, which confined him to bed for three years, since which time he has been well up to the present. He is now anæmic and emaciated, with atrophied skin and hairless face. Smell, taste, and hearing are normal, but his right eye has been destroyed by a process of painless ulceration. There is anæsthesia of the hands and arms as far as the elbows, and of the feet and legs as far as the knees. There is great deformity of both extremities from atrophy of the bony, muscular, and nervous structures. The hands are contracted, and the small joints stand out distorted and rigid, which gives the hands very much the appearance of advanced arthritis deformans. Under the right foot is a suppurating ulcer, through which pieces of necrosed bone are occasionally discharged. All of the toes except one have fallen off this foot, and the big and little toes are gone from the left foot.

A CURIOUS CASE OF OPIUM ADDICTION.

By Dr. J. B. Mattison. (*Philadelphia Med. and Surg. Reporter*, Dec. 13, 1890.)

Mr. A., thirty-five, merchant, had suffered from headaches since boyhood, and for the last twenty years never passed a fortnight without an attack. In the autumn of 1879 a friend persuaded him to try a certain medicine. This remedy was in liquid form, and ten drops were to be insufflated; the remedy to be repeated in twenty minutes if required. Finding the application effective, Mr. A. purchased a large quantity, to which he had recourse during the next few months. In the spring of 1880 he began to have varied discomfort, apart from his headache, for which his migraine remedy also gave relief. His suspicions being aroused, he consulted the pharmacist, who informed him that the mixture contained ten grains of morphia to the ounce of water. After that discovery, not being alive of the danger, he still continued to use the remedy. At length, however, he consulted a physician about some other ailment, and was then strongly advised to discontinue its use. What followed may be best given in Dr. Mattison's own words:—"The effort was now made to follow this advice, but with the usual result—failure. The attempt at self-cure, both by sudden disuse and by gradual decrease, was repeated many times, but never with success. So Mr. A. kept steadily to his morphia, increasing the amount from time to time, until he reached a maximum of one drachm in from four to eight ounces of water, *per nares*, each day. This was his regular stipend for eighteen months prior to his coming under my care. Only once was any change made in the manner of taking. A short trial by the mouth caused so much gastric discomfort that the original method was soon resumed. The snuffing was repeated from three to eight times a day, beginning before the morning and ending with the evening meal. The invariable effect of any taken later was severe headache next morning. All the opiate effect was obtained through the nasal membrane, as special care was taken to prevent swallowing it, and whatever amount returned or passed into the mouth was rejected." During this period of addiction the headaches disappeared, but at the cost of the usual train of symptoms attendant on chronic narcotic poisoning, such as defective sight, loss of appetite, wasting and obstinate constipation. At the outset of treatment a change was made in the form of administration of the morphia, namely, it was given by mouth, and in this way the amount was reduced to fifteen grains daily. At the same time the condition of bowel inertia was remedied by cathartics and mineral waters. The quantity of the alkaloid was then lessened, and in eight days quite discontinued.

Great attention was paid to diet, and for some weeks the remarkable increase in weight of a pound a day was noted. Therapeutic remedies included cod-liver oil, pepsine, quinine, and Fowler's solution. Ultimately the patient made a complete recovery.

DIAGNOSIS BETWEEN ULCERS AND TUMOURS OF THE STOMACH.

By Dr. Rommelacre. (*Gazetta degli Ospitali*, Jan. 14, 1891.)

It is needless dwelling on the difficulty of distinguishing between ulcers and malignant tumours of the stomach. Every treatise on medicine details symptoms on which a differential diagnosis can be made. Nevertheless, experienced physicians sometimes mistake one affection for the other, neither the tumefaction of the axillary glands of Trosier, nor the lencocytes of Hayem, nor observations upon the amount of hydrochloric acid in the contents of the stomach, have proved of much value in the diognosis. To help in this difficulty, Rommelacre has indicated a means of distinction easy to apply. He tells us that in malignant tumours, whatever may be their seat or their structure, the quantity of urea found in the urine sinks rapidly, till it stands below twelve grammes in the twenty-four hours. In certain states of disease of the stomach, and especially in carcinoma, there exists a disturbance of nutrition, through which the absorption of the nitrogenous portion of the food is deranged, so that the quantity of azotic eliminated is not proportioned to the quantity introduced. This may serve as a criterion in the differential diagnosis between ulcers and cancer of the stomach. In ulcers of the stomach, on the contrary, we find the quantity of urea to be about the same as in good health, and not to vary from day to day, whilst in cancer there is a notable diminution, which is not so much owing to the influence of the malignant growth upon nutrition in general, as to special alterations in the digestive organs and the mechanical and chemical disorders which accompany them.

HEART-DISEASE AND PELVIC LESIONS.

By Dr. J. D. Williams.

(*Edinburgh Medical Journal*, Nov. 1890.)

The co-existence of heart-disease with pelvic lesions among women has been commented on by several writers of authority, among whom the late Drs. Hilton Faffe and Milner Fothergill are prominent, and a further contribution to the literature of the subject is afforded by Dr. Williams' instructive paper in the November issue of the *Edinburgh Medical Journal*. The observations here recorded were made on sixty-one consecutive cases noted in the gynæcological laboratory of Edinburgh University, occurring in a period of two years. Of these, fifteen, or 24·6 per cent., exhibited evidence of cardiac valvular disease, the prevailing affection being ventral stenosis, while aortic lesions formed but a small proportion of the whole number. Comparing these with the results obtained from examination of one hundred males, dying within the same period in the Infirmary, it was found that only fifteen out of the latter were subjects of heart-disease, but the majority of them were instances of aortic lesions, while the proportion of ventral affections was very much smaller,—the exact opposite to the condition observed among women. The morbid influences, therefore, which disturb the female heart seem to concentrate themselves around the ventral valve, whereas in males they attack the aortic valve. In a series of tables, the author gives the distribution of cardiac lesions in association with the various pelvic disturbances, by which it is shown that the largest percentages of heart-disease occurred with endometritis, congestion of the uterus, laceration of the cervix, and inflammatory affections of the cervical mucous membrane, the exact relations in this connection being displayed in tabular form. Pelvic cellulitis and peritonitis were found co-existent with seven out of the fifteen cases of heart-disease, or a percentage of 46·6. The menstrual history of the fifteen subjects of heart-disease is thus summarised:—Two suffered from menorrhagia; in six, the flow was scanty and of short duration; in four, it was normal; while in the remaining three, there was no reference to the condition of the menses in the hospital-records. As to the question whether the pelvic lesions preceded those of the heart, it is stated that nine out of the fifteen were admitted with symptoms of heart-disease, from which they had suffered more or less for several months, and in some cases for several years. In two out of the nine, the patients had been under treatment for heart-disease for many years before.

THE PREPARATION OF "MADRAS VACCINE PASTE."

(*The Indian Medical Record*, Jan. 1, 1891.)

In preparing the calf by shaving and washing before inoculation the soap used should not contain any antiseptic, for otherwise the vitality of the lymph is endangered. About the fifth day after the primary operation, most of the vesicles will be ripe for further treatment. In collecting the vesicles every particle of each must be carefully removed. This is done best with an ordinary bleeding-lancet, with the point broken off square. The index and thumb of the left hand are firmly pressed on the skin on each side of the vesicle, which is then detached with one sweep of the lancet. If this is properly done, no blood appears. The vesicle-pulp is collected in the glass pan of an apothecary's scales, and weighed. The pulp is then placed in a small glass or agate mortar, and worked up until absolutely homogenous. Anhydrous lanoline of the purest quality obtainable is then added to the pulp in proportion of from four and a-half to ten times its weight, according to the strength desired, and the whole pounded up together. When thoroughly mixed, the paste may be stored in convenient receptacles of glass or earthenware and sealed up. Specially prepared earthenware pots are made by the Madras School of Arts, with screw-tops. It must be remembered that the living vaccine-germ perishes at a temperature of 140°, though, if exposed for long to a temperature considerably lower than this, its destruction will ensue. The preservative action of the lanoline minimises this danger. The value of the preparation for use in tropical climates will, therefore, be understood. Sunlight is inimical to its preservation. The paste is applied much in the same way as ordinary lymph, a narrow silver blade, slightly curved at the end, being best for its abstraction from the jar. Thirty grains are said to be sufficient to innoculate thirty persons at four insertions each. Completely satisfactory results have been obtained from the use of the paste.

ON THE INFLUENCE OF ALCOHOL ON THE COURSE OF ALBUMINURIA IN NEPHRITIS.

By Dr. Arkady O. Gurvitch. (*St. Petersburg Inaugural Dissertation*, 1890-91, No. 11, pp. 44.)

Does alcohol, when taken in moderate quantities, produce any injurious or irritant action on a diseased kidney? An overwhelming majority of practitioners would answer this question, probably, in an affirmative sense. Meanwhile, however strange it may appear, international literature does not contain any direct and unequivocal *clinical* evidence bearing on the point and justifying the affirmation, the latter being based only on certain physiological and theoretical or *a priori* grounds. Dr. Gurvitch, of St. Petersburg, has undertaken a set of clinical experiments (in the *Obukhovskaia Bolnitza*), with the special object to ascertain the effects of spirits on albuminuria in cases of Bright's disease. Twelve male patients, aged from twenty-four to fifty-eight, all belonging to the working-classes, were selected for the purpose, of whom five were suffering from confirmed chronic nephritis, with a more or less uniform course of albuminuria, and the remaining seven from either acute or sub-acute renal inflammation. Of the twelve cases, nine were typical instances of a simple nephritis, while in the other three some complications were present (in one scurvy, with slight fever; in another, left hemiparesis; and in the third, pulmonary tuberculosis). A quantitative determination of albumen in the urine was made mostly by means of a twenty-per-cent. solution of trichloracetic acid (which has been first introduced, as a highly sensitive reagent for albumen, by Dr. A. Raabe, in the *Pharmaceutische Zeitschrift fuer Russland*, No. 26, 1881, p. 445), but sometimes by means of ordinary acetic acid. The observations lasted, in individual cases, from fifty to sixty-two successive days, being divided into several periods, during certain of which alcohol was given before or with meals. As a rule, a from 40° to 45° *vodka* (aquavit, made of corn) was used, the daily dose varying between three and six ounces, and the individual from one to three. In some cases the patient was receiving similar doses of a mixture, made of a 95° alcohol and distilled water (in equal parts); or a 50° brandy, from two to four ounces daily; or sherry, three ounces a-day. The patients' dietary usually consisted of roast beef (a quarter-pound a-day), soup (600 cub. cc.), porridge, bread (one or two pounds), milk (600 cub. cc.), and tea with sugar. In one case milk was given instead of meat. Of drugs, only a mixture with hydrochloric acid (*ex* ʒi. to ʒiii. *pro die*) was administered. Some patients received baths (always of the same temperature and duration.) In every one of the cases physical exercise was reduced to a minimum amount (in order to exclude any effects of movement on the excretion of albumen). It is hardly necessary to mention that all the conditions remained as identical as possible during all periods of the experiment. The esential conclusions arrived at by Dr. Gurvitch may be condensed thus:—(1) When taken in moderate doses (from three to six ounces of a from 40° to 45° equavit a-day), alcohol does not increase albuminuria, and generally does not cause any renal irritation—and that even in such cases where it is used day from day for a more or less considerable period (a fortnight or so). (2) Neither does it produce any appreciable impression on the secretion of urine (on the daily quantity of the latter). (3) The propositions hold equally true with regard to acute and chronic nephritis. (4) Such clinical evidence finds an easy explanation in the well-established fact that in man alcohol, even when ingested in fairly large doses, is eliminated through the kidneys in but trifling quantities. Thus, according to Bodlaender's experiment in Prof. Binz's laboratory, the proportion oscillated between 0·17 and 1·86 per cent. of the alcohol ingested, averaging 1·177. The figures refer to healthy men, taking from 50 to 100 cub-centim. of absolute alcohol (introduced, of course, in a diluted form, at a time). (5) Hence, nephritic patients can be safely allowed to take alcohol—provided it is used in moderate quantities, and in a more or less dilute form. (6) Under certain conditions, its administration may be even indicated in nephritis, since (*a*) alcohol affords an excellent means for stimulating weakened heart and circulation in such patients; (*b*) while dilating the peripheral blood-vessels, it tends to lessen renal congestion; (*c*) it increases both perceptible and imperceptible perspiration; (*d*) it stimulates the central nerve-system; (*e*) it improves appetite, as well as the assimilation of proteids; (*f*) in virtue of its anti-fermentative properties, as well as its stimulating intestinal peristolsis, it acts beneficially on gastro-intestinal disturbances, if present; and (*g*) it raises the patient's general nutrition. (7) Most likely, alcohol does not play any direct part (as a "renal irritant") in the causation of Bright's disease.

A CASE OF ACROMEGALY DUE TO SHOCK.

(By P. K. Pel (Amsterdam). (*Berliner klin. Wochenschr.*, v. i., No. 3, Jan. 19, 1891.)

This case is of great interest, as regards the etiology of that rare and mysterious disease, acromegaly. A servant girl, aged twenty-five, was received into hospital Oct. 13, 1890, complaining of pain in the head and limbs, also general weakness. Her illness dated from an evening in March, 1889, during a menstrual period, when she made a false step in the dark, and fell from a stairway. A passer-by raised her up; she had sustained no material injury, but in her fright thought he meant to assault her; accordingly, she rushed home and fell down crying on the floor. Her illness began from this moment. Next day she had headache and pain in the eyes, with photophobia and lachrymation. A few weeks later she complained of otalgia and noises, also stabbing pains in the palate and gums. Then followed rheumatic pains in the back, shoulders, and all four limbs, with paræsthesiæ in the tips of the fingers and toes. The headache was often violent and followed by vomiting, which was a relief. These symptoms all became worse when she heard of the sudden death of a brother. Intervals free from symptoms became rarer and shorter. Gradually she and her friends noticed that her face was larger and altered in shape, also that her feet and hands were larger. She could no longer wear her usual gloves and boots, and she sought in vain in shops for the sizes wanted. She became depressed and weak, and often lay in bed. Great thirst and copious sweats were remarked. Appetite small, bowels sluggish, urination normal except for occasional tenesmus; no cough; no palpitation. The menses have not appeared since the time of her mental shock (March, 1889); previous to this she had always been regular. There was no history of hereditary nervous disease, the patient herself was never

nervous before her illness. On being questioned, she said she had noticed red patches, and bluish, painless, hard lumps in the calves of the legs.

Present Condition.—Patient is above the average in size, height 169 cm. Looks anæmic, otherwise pretty well nourished. Temperature always normal; pulse 76, small, soft. Breathing 18 to 22. Mentally much depressed; complains of pains in head, ears, eyes and limbs, also general fatigue. Photophobia (conjunctiva reddened), epiphora, and increased perspiration. The size and unusual form of the head, also the size of the hands and forearms strike the observer at once. The enlargement of the hand is quite uniform, so that no deformity is present—the fingers are not at all paw-shaped—and is evidently due exclusively to hypertrophy of the bones. The face has a long oval form, from the prominence of the lower jaw. The mento-occipital diameter is enormous, 24½ cm. Circumference of chin and occiput is 70 cm. Nose enlarged, also both lips, especially the upper lip. Pupils react well to light and on accommodation; both fundi normal. Cranium normal. Mouth, tongue, ears, eyelids, neck (and larynx) all normal; also cheeks and finger-nails. Hands and feet enormous, without the least deformity; the measurements are as follow:—Length of each hand, 20·5 cm.; of middle finger, 11 cm.; of index, 10 cm.; of little finger, 7·8 cm.; of thumb, 6·7 cm. Round end-phalanx of thumb, 8 cm.; of middle finger, 7·5 cm.; of little finger, 6·3 cm. The feet are proportionate. The wrists and ankles are also enlarged; further, both patillæ, both iliac crests, both clavicles (presenting exostoses at their acromial ends), and the vertebræ. Sensibilities and reflexes normal; muscles weak; gait painful and tedious—body leans forward. Hairs present in pencils on dorsum of feet and toes. No enlargement of thymus made out, nor of heart. Thyroid body small, but not wholly absent. The urine contains neither sugar nor albumen. Polydipsia without polyuria. Electric reactions normal.

Remarks.—The symptoms may thus be grouped:—(1) General nervous symptoms of central origin. (2) Regular symmetrical enlargement of peripheries. (3) Secretory disturbances. (4) Amenorrhœa. The small thyroid has no pathological importance. The case is a typical one of acromegaly. A violent emotional shock was sustained at the time of menstruating, and all the symptoms date from this, which was, doubtless, the cause. The absence of hereditary disposition is remarkable. The hypertrophy of the extremities must be regarded as neurotic hypertrophy There is no probability that the hypophysis cerebri is involved. Von Recklinghausen found degeneration of peripheral nerves in a case of acromegaly due to syringomyelia, and, though such degeneration was not made out in the present case, a small degree might easily escape observation. This is apparently the first case of acromegaly in which a distinct cause could be assigned to the disease. Souza-Leite has already remarked that depressing emotions, *ennuis*, disappointments, &c., were noted in one case, in which the first symptoms appeared about the age of thirty-six years, and coincided with a series of such *ennuis*.

Army Medical Officers.—It is understood that conferences have been held by the Secretary for War with Sir Andrew Clark, who, as President of the London College of Physicians, took a leading part in urging upon the Government the grievances of Army Medical Officers, as to what should be done to improve the rank and status of those officers.

Pharmacology and Therapeutics.

TREATMENT OF DIPHTHERIA BY ICE.

By Dr. Sevestre. (*Jour. de Med.*, January, 1891.)

Sevestre has been trying, on behalf of a committee of which he was a member, the procedure recommended by Blaynie (Limoges)—of treating diphtheria by means of ice. The proceedure consists in introducing into the mouth of the patient a little piece of ice, every ten minutes, without interruption, night and day, unless there are other indications to the contrary. There should be no relaxation in the administration of the ice, until after the disappearance of the false membrane. Failing the ice, resort may be had to cold water, given in small quantities every three minutes. Under its influence, according to Blaynie, the false membrane will disappear in the course of a few days, and the progress of the disease is quickly arrested. Sevestre did not consider it expedient to employ this method without combining it with what is known as Gaucher's treatment, which he generally adopts. He was not, therefore, able to judge certainly of a plan which he did not thoroughly follow. However, he was able to say that it is of some utility, and in all cases easy to apply. He thinks that under its influence the false membrane is much less quickly formed.

KOCH'S CURE IN FLORENCE.

By Dr. E. Curz. (*Gazzetta degli Ospitali*, No. 4, 1891.)

Dr E. Curz gives a *résumé* of the results obtained with Koch's lymph, which were communicated to the Academy of Medicine of Florence on December 28 last. The patients under treatment were at the same time presented to the society. Dr. Curz's views are entirely favourable. According to his experience, Koch's treatment, practised with the necessary precautions, is quite harmless and without any danger. Although the time since the announcement of the discovery is too short to decide the question of a complete cure, or of the return of the disease, Dr. Curz has no doubt that we have in Koch's lymph a remedy which has a wonderful effect upon tubercular tissues, and which, not only is of service in discovering foci of commencing tubercle, but also of modifying its action in a wonderful manner.

HYPODERMIC USE OF ARSENIC.

By Dr. H. N. Moyer. (*Therap. Gazette*, Jan. 1891.)

Wishing to obtain the effects of arsenic in cases where, given by the mouth, the drug caused speedy disturbance of digestive functions, the writer was induced to try the hypodermic method. Published records appearing to show that Fowler's Solution is of uncertain constitution, and often produces suppuration when used hypodermically, the preparation was avoided, and the salt employed was the anhydrous arseniate of soda (NA_2HASO_4) in one-per-cent or five-per-cent. solution. This solution was found to be quite unirritating, and could be used for a long period without complaint from the patients. In a hundred and twenty-seven injections the dose varied from ♏vi. of the one-per-cent. to ♏xv. of the five-per-cent. preparation. Thus administered the drug was found

to exercise its full beneficial effect, and it failed to produce any disturbance in patients who could not tolerate it when given by the mouth even in small doses. The author would explain this by suggesting that when given by the mouth arsenic has to pass largely through the liver, on which it then exerts most of its toxic effect, whereas, when given hypodermically, it is carried straight to the tissues, its effects not being then concentrated on the abdominal organs. Of course, freedom from accident can only be ensured by using a clean syringe and fresh, or at any rate sterile, solutions.

SALOL IN THE MARASMIC DIARRHŒA OF CHILDREN.

By Dr. Moncorvo. (*Rev. Gén. de Clin. et de Thérap.* January 7, 1891.)

According to this writer, salol, which is a valuable intestinal antiseptic, diminishes promptly the diarrhœa, deodorises the stools, and renders the intestines aseptic. It is well borne by children of all ages; and in no cases were untoward symptoms observed. The drug was given in daily doses, varying from gr. 2½ to ʒss. It would perhaps be well, however, to avoid giving the larger dose, save in very exceptional cases, notwithstanding the feeble toxicity of the drug.

ON THE TREATMENT OF BROMIDE AND BORAX POISONING.

By Dr. Féré. (*Bull. Méd.*, Feb. 4, 1891.)

The author had accidently noticed that the ingestion of salicylate of bismuth and β naphthol, for the purpose of obtaining intestinal asepsis, caused the prompt disappearance of the symptoms of bromide poisoning, even without involving the necessity for suspending the administration of the drug; indeed he found it possible to raise the dose to four, and even five drachms, in the twenty-four hours, without provoking any recrudescence of the cutaneous lesions. Having remarked that the use of borax in the treatment of epilepsy also caused cutaneous eruptions, he tried the same combination of remedies, and obtained equally satisfactory results. He insists on the curious fact that the toxic effects of these two drugs are singularly inhibited by intestinal asepsis, and he suggests that this method may possibly be found applicable to other medicinal substances.

"SOMNAL."

By Professor Frank Woodbury, M.D. (*Denver Medical Times*, Dec. 1890.)

The new hypnotic resulting from the union of chloral, alcohol, and urethane, and to which the name "Somnal" has been allotted, has been made the subject of investigation by Professor Frank Woodbury of Philadelphia, who speaks in very favourable terms of its usefulness as a therapeutic agent. He finds that it induces natural and refreshing sleep without the depressing effects of chloral; it relieves nausea and pain, improves the appetite, owing to a slightly stimulating action on the gastric mucous membrane, and does not cause constipation. It is rapidly eliminated from the system, and may be administered nightly for a number of successive days without leading to any obvious ill consequences. The most suitable mode of administration of the drug is that of solution in whisky, equal parts of each, in the amount of one drachm of the mixture for a dose; and this may be repeated at four hourly intervals, if found necessary, or a single dose of twice the quantity may be given, if desired. In cases of acute alcoholism and nervous insomnia marked benefit has been derived from the use of the drug, and that the improved condition is properly attributable to its influence has been fully confirmed by careful observation in several test-cases. Somnal is a colourless liquid, insoluble in cold, but dissolved by hot water and alcohol. It possesses a pungent taste, and should, therefore, be freely diluted for administration. Its somnolent effects are very speedily produced in most cases.

TREATMENT FOR CORYZA.

(*Lyon Méd.*, Jan. 18, 1891.)

The following is spoken of with confidence as a remedy for coryza. Make small tampons of absorbent wool, and impregnate them with a two-per-cent. solution of hydrochlorate of cocaine. Introduce one of these into each nasal fossa, renewing the plugs twice a day. By this method it is stated that after about twenty minutes the sneezing and pain disappear, the breathing becomes less embarrassed, and the mucous membrane less congested. The headache and soreness about the nose disappear soon after. With reference to the above remedy, it may be well to state that while personal experience corroborates the above account of the disappearance of symptoms, the effect is unfortunately not permanent unless the applications be renewed more frequently. The three following points also should be remembered: — (1) The cocaine produces a very unpleasant anæsthesia of the soft palate and pharynx; (2) frequent applications are apt to produce cocaine intoxication; (3) if applied shortly before bed-time, a most troublesome insomnia is often produced as a bye-effect of the drug.

TREATMENT OF INTESTINAL OBSTRUCTION BY OLIVE OIL.

By Dr. E. W. Michell. (*Cincinnati Lancet-Clinic*, January 17, 1891.)

The usefulness of olive oil as a solvent of fæcal accumulations has had many supporters in the past, while other observers have failed to obtain any good results from its employment. Among the favourable reports in this connection, is one on two successful cases by Dr. Michell of Cincinnati, the patient in the first being a man, aged fifty-three, who had been operated on for inguinal hernia, nearly two years before intestinal obstruction occurred, probably due to pressure of an abscess which ultimately discharged into the bowel. Failing to relieve the stoppage by enemata, etc., olive oil, in hourly doses of two ounces, was given for several hours, and at length led to the passage of stools, at first fluid, but subsequently of a more and more solid consistency. The second case was that of a young man, aged twenty-two years, who had been suffering from tormina and vomiting for two days, and in whom no relief was secured by aid of purgatives or enemata. About a pint of the oil was given within a few hours, and, notwithstanding that everything previously taken had been vomited up again almost immediately, most of it was retained; and three hours later evacuations were obtained, and recovery ensued. A

number of other cases, attended with similarly successful results, have followed the employment of large quantities of olive oil, varying from a pint to a quart, or more. Several of these were narrated by physicians who discussed the paper which Dr. Michell read before the Walnut Hills Medical Society, and a report of which is contained in the *Cincinnati Lancet-Clinic* for January, 1891.

THE ARTERIAL TREATMENT OF ANGINA PECTORIS.

By Dr. Henri Huchard. (*Revue Gén. de Clin. et de Thérap.*, Jan. 14, 1891.)

In the treatment of angina pectoris, our efforts have to be made in two directions: we must deal first with the attack itself, and then with the interval between the attacks.

(I.) *Treatment of the Attack.*—(α) Relieve the pain, preferably by morphine, but if this is not tolerated, use cocaine. (β) Arrest the attack, and produce vaso-motor dilatation, either by inhalations of amyl nitrite or hypodermic injections of trinitine, preferably with the former, owing to its more rapid action.

(II.) *Treatment of the Interval.*—(1) *Symptomatic.*—The arterial tension may be kept down by daily small doses of nitroglycerine (♏ iij. of one-per-cent. solution thrice daily on sugar); or a course of nitrite of sodium may be instituted. Another valuable drug is potassium iodide, taken over a long period. (2) *Causal.*—(α) If the attacks are of neuralgic origin, employ nervous sedatives, such as chloral, bromides, hydrotherapy in the form of the various saline or medicated baths, etc. (β) If of rheumatic origin, the best medicine is salicylate of soda. (℞ Sodii salicyl. gr. x.; sp. ammon. aromat. ♏ xv.; aq. menth. pip. ad. ℥i. ter. die.) (γ) If there be well-marked arterio-sclerosis, advise externally the use of points of cautery over the sternum, or blisters, and internally the use of the alkaline iodides. (3) *Hygienic.*—(α) Prevent moral shocks, over-exertion, constipation. (β) Avoid tobacco. (γ) Advise a restricted diet, consisting largely of milk or vegetable foods. (δ) Combat such conditions as alcoholism, saturnism, arthritis.

STRYCHNINE IN CIRCULATORY FAILURE.

By Dr. C. S. Bradfute. (*Medical News*, Jan. 3, 1891.)

The writer considers strychnine, if not the best, at least one of the best, cardiac stimulants available. A study of its physiological action undoubtedly shows that it, too, has objectionable features, but fortunately they can, to a certain extent, be mitigated by the conjoint use of other remedies. Strychnine is very diffusible; it acts quickly, and the effect is sustained. When a medicinal dose is administered hypodermically the heart at once responds by an increase in the strength of its movements, the arterioles contract, and the blood-pressure rises. At the same time the irritability of the sensory and motor nerves and the excitability of the muscular tissue are greatly increased, thus promoting nutrition-changes, and mechanically favouring a rapid blood-current. A spasmodic contraction of the renal capillaries is likely to occur if large doses are given, but the interference with the kidney secretion can be obviated by diuretics having a selective action upon the urinary organs. Lately strychnine has been strongly recommended by some eminent observers as a reliable agent when other members of the group of cardiac tonics are contra-indicated, and to the writer, who used it a great deal while resident physician in the Pennsylvania Hospital, it has proved very satisfactory. The stimulation is not confined to the circulatory system, but is general, and in many respects very much resembles the effects of heat. Its characteristic effect upon the spinal cord no doubt tones up, so to speak, through the sympathetic nerves, the digestive function, which with the diffused stimulation of the circulatory system must result in a supply of better blood to the nerve-centres, and, consequently, to promotion of the vital functions. A curious fact in connection with the action of strychnine is that the weaker the circulation the larger is the amount necessary. Its action seems to be in a way neutralized by the causes inducing the weakness, requiring, in some instances, rapidly-increasing doses to maintain the effect. Dr. C. B. Penrose informs the writer that he has given hypodermically as much as two grains of the sulphate of strychnine in twenty-four hours, with the result of successfully tiding the patient over a crisis.

THE TREATMENT OF TUBERCULOUS LUPUS.

By Dr. E. Besnier. (*Rev. Gén. de Clin. et de Thérap.* January 14, 1891.)

The tuberculous nature of the various forms of lupus has now been proved, probably to the satisfaction of everybody. By improved methods of cultivation and examination, tubercle bacilli have been grown from and demonstrated in the tissue; the elective reaction of Koch's lymph in cases of lupus has completed the demonstration. It is no longer necessary to talk of varieties of lupus—all are due to a common cause, as well as the large class of diseases called scrofulodermata.

Treatment.—The number of remedies and methods which have accumulated during the last twenty years, is immense. They may, however, be divided into two large orders: (α) medical treatment and (β) surgical treatment. Each method has its partisans, but few would consider any one method applicable to every case. The various methods may be classified as follows:—A. Bactericides; Phagocytosis; substitutive and inhibitory action of erysipelas; Koch's lymph. As regards all these, it must be confessed that, although a temporary improvement may be produced by any one of these, there is not yet evidence sufficient to justify the statement that a permanent cure has ever been produced. Even Koch's lymph, with its grave risks and accompanying fever, cannot yet be said to have produced anything more than "amelioration." None of the above can be said to produce such a permanent modification of the tissues as mercury does in syphilis, and it is to be feared that the rapid tolerance set up for the lymph of Koch will be a limit to the utility of this latter remedy.

Internal treatment.—This can be regarded in no other light than as an adjuvant to other and external measures. Among medicines may be mentioned cod-liver oil, iodoform (either internally or injected under the skin), reputed germicides such as creasote, tonics such as quinine or iodide of iron, saline baths, etc.;—all excellent adjuvants to more radical treatment, but none efficient as curative agents *per se*.

Treatment by Caustics.—This may be dismissed

with the remark that, although sometimes of use in cases which will not submit to surgical interference, the pain of application, and the difficulty in limiting their action, render them very inferior to other methods of treatment.

Surgical treatment.—It is this which the writer regards as most essential, and the various methods available, such as complete extirpation, curetting, linear scarification, etc., combined or not with cauterization, are described with considerable minuteness and their various merits discussed. It is impossible, however, to do anything like justice to these in abstract form, and for details we would refer the reader to the original paper. The contribution is well worthy of careful perusal, being a complete *résumé* of the present position of the treatment of lupus.

BORACIC ACID ERUPTIONS.

By Dr. Corlett. (*Journal of the American Medical Association*, Dec. 27, 1890.)

Eruptions following the internal use of boracic acid have been reported from time to time, and have differed widely in their characteristics. Thus, eruptions of a pustular, psoriatic, and erythematous variety have been described by various observers. Dr. Corlett, the well-known American dermatologist, in discussing the subject, says that his attention was called to a rash occurring in diphtheritic patients treated with large doses of boracic acid. He had the opportunity of following five cases in which the characteristics and course of the rash presented marked uniformity. It bore a marked resemblance to measles, but was not elevated above the surface of the skin, and was more itchy than measles generally is. It appeared first in the face, and then spread to the trunk and limbs, and subsided in from three to five days. Dr. Corlett was by no means satisfied that this rash might not have been due to the diphtheritic poison, rather than to the boracic acid. He tested the drug on sixteen patients, attending different departments of the hospital. He administered a drachm of the drug three times a-day. The drug was discontinued in a few days, or a week or two in some of the patients, owing to gastric disturbance or other reasons. Of eight patients who took it for a month, one patient presented a few itchy tubercles on the forehead. These tubercles involved the subaceous glands, were surrounded with a bright red areola, and remained stationary for a mouth, at which time the drug was discontinued. Another patient, who continued the drug for four months, presented at the end of this time a few tubercles, similar to the preceding, on the forehead, scalp, and chest. The eruptions in these two cases were such as one frequently sees in subjects of acne when suffering from gastric derangement. So far, therefore, as the observations go, they teach that, if there be an eruption due to the ingestion of boracic acid, its presence is so inconstant, and its clinical features are so ill-defined, as to leave grave doubts as to its entity.

APOMORPHINE AS AN ANTIDOTE FOR STRYCHNINE.

By Dr. W. J. Ransom. (*New York Medical Record*, Jan. 17, 1891.)

The author was called to see a man who had taken by mistake an overdose of fluid extract of nux vomica. He had taken the liquid from the bottle without measuring it, and did not know the exact amount. He immediately took an emetic dose of ipecacuanha, and telephoned for assistance. He was seen about fifteen minutes after he had taken it, and the emetic had not taken effect. He was immediately given a one-twelfth gr. tablet of apomorphine hypodermically, but as soon as the needle was removed he had a terrible convulsion. The author administered chloroform, and in a short time the convulsion ceased. The patient's pulse was barely perceptible, and the heart sounds were feeble. In a few moments he rallied, vomited freely, and perspired profusely. He did not have another convulsion. Chloral and potassium bromide were given through the night, and the next day the patient was all right. The author concludes that, apart from the emetic effect of the apomorphia, its general relaxing effect had subdued the convulsive effect of the nox vomica.

IDIOSYNCRASY TO THE EXTERNAL APPLICATION OF IODINE.

By Dr. M. V. Ball. (*Medical News*, Jan. 21, 1891.)

In the Surgical Ward of the German Hospital, at Philadelphia, in the service of Dr. Deaver, there recently occurred a case of extreme idiosyncrasy to iodine. The patient, an adult, suffering from osteitis of the cervical vertebræ, was painted with tincture of iodine just below the mastoid process over an area three inches square, only one application being made. Almost at once the patient complained of tingling and burning sensations over the whole body, and in less than three minutes the skin was everywhere covered with an intense erythematous rash. The patient then complained of ringing in the ears, throbbing in the head, and palpitation, and became very anxious. His temperature, half-an-hour after the application, was 96½°F., his pulse was 66. Respiration was normal. His lips were somewhat cyanotic in appearance. The rash began to disappear in the course of an hour. The eyes began to "water," and the lids were very much congested, as well as the conjunctiva and the eyeball. There was no vomiting or sneezing at any time. The region on which the application was made became much swollen. The temperature, two hours after the first symptoms appeared, was 100°, and the pulse at the same time 96. The eruption had entirely disappeared in three hours, although the conjunctiva remained reddened. The urine, examined half-an-hour and three hours respectively after the application, gave no reaction to the ordinary tests for iodine. The patient gave a history of a similar experience some years ago, after an external application of the tincture of iodine. Iodide of potassium had been administered to him in small doses for many weeks without the occurrence of bad symptoms. The only treatment was the removal of as much as possible of the iodine that remained on the skin, and stimulation. Twelve hours after the occurrence, no symptoms of the intoxication remained.

A NEW MODE OF EXHIBITING SULPHONAL.

By Dr. David D. Stewart. (*New York Medical News*, Jan. 31, 1891.)

This paper suggests a method of surmounting a difficulty which all those who have been in the habit of prescribing sulphonal must have experienced. The

author remarks that the great disadvantage of that drug over other recently introduced hypnotics is its insolubility and consequent slowness of action. Even after a large dose, sleep does not follow in some cases for many hours, and the patient remains in a condition of semi-somnolence during the next day. Many physicians, therefore, have discontinued the use of the drug. These undesirable effects are explained by the very slow diffusion of the drug taken in a state of simple suspension, "the whole amount not entering the circulation until many hours after the ingestion." The author's plan of administration is, briefly, as follows:—The sulphonal powder is given at bedtime, dissolved in about six ounces of boiling water. It is essential that the water be actually boiling, and in that case a minute or two will suffice to dissolve the crystals. Cold water must then be added cautiously until the liquid is reduced to a drinkable temperature. If not cooled too far, there will not be the slightest precipitation of the drug. "To ensure success the whole of the sulphonal should be dissolved, and the solution should be taken as hot as possible. Its action will then be prompt and thorough." The hot solution dilates the gastric vessels, and stimulates them to rapid absorption, so that diffusion takes place from the stomach, probably before slight or any absorption of the drug occurs; entirely unlike the result that follows when the sulphonal is ingested in a state of simple suspension. In the latter case gastric absorption can scarcely occur, and hours are perhaps consumed before the whole amount taken enters the blood. He claims that the period of "therapeutic incubation" is done away with, and that sleep follows in a few moments, while the annoying condition of drowsiness lasting through the next day is entirely avoided. The taste of the hot solution is somewhat unpleasant, but this can be got over by the addition of a few drops of some preparation of green mint. Another caution that should be observed is that the stomach should be empty at the time of administration, otherwise rapid absorption will almost certainly be delayed. However, since the drug is usually given at night, there will be little difficulty about this.

THE ETIOLOGY OF THE DISEASE KNOWN AS "SUPPURATIVE TONSILLITIS," AND ITS SURGICAL TREATMENT.

By Dr. C. C. Rice. (*New York Medical Record*, January 31, 1891.)

The author, in a somewhat elaborate paper upon the etiology of suppurative tonsillitis, and its surgical treatment, states his belief in the following propositions:—(1) That the tonsils, like other lymphoid tissue, are blood-elaborating glands. (2) That, when they are in a normal condition, they probably perform a second function by reason of the large number of the leucocytes contained in them, and this function, if not aggressive, at least possesses the power to prevent the entrance of pathogenic germs through the crypts of the tonsils. (3) That, when the tonsils have ceased to perform their function, by reason of such pathological conditions as interstitial thickening and occlusion of the lacunæ of the glands, they probably present open-mouthed viaducts through which pathogenic germs may pass to the lymphatic circulation. (4) That all kinds of tonsillar inflammation are due to septic causes, or, in other words, to specific germs; and that those causing follicular disease, parenchymatous disease, and peritonsillar abscess, are different from one another. (5) It is believed, therefore, that septic influences are the exciting causes of tonsillar inflammation, and that the presence of pathological tonsils—tonsils unable to perform their physiological function—is the chief predisposing cause. (6) That a classification of tonsillar inflammation into three varieties is sufficient, viz., follicular, parenchymatous, and peritonsillar abscess. (7) That suppurative tonsillitis is not a correct name, because the suppuration occurs in the connectivs tissue above the tonsils, and very rarely in the tonsils themselves. (8) That, in people who possess the disposition to suppuration about the tonsils, we find the tonsils either adherent to or covered by the pharyngeal pillars, and that this condition plays a more important *rôle* in the predisposition to suppuration about the tonsils than does the rheumatic or other diathesis. (9) That when a tonsil shows itself competent, at short intervals, to become inflamed, or to give rise to peritonsillar suppuration, it is in a pathological condition, and should be destroyed by the galvano-cautery or other measures.

ON VARIOUS METHODS OF ADMINISTERING CHLOROFORM.

By Dr. Macewan. (*Glasgow Medical Journal*, January, 1891.)

In making the concluding remarks at the discussion on anæsthetics before the Glasgow Medico-Chirurgical Society, the President touched upon the subject of chloroform inhalers. He said that many administrators deprecate the use of an apparatus, although they will use the corner of a towel caught with a safety-pin, and a drop-bottle. The conditions to be aimed at were to have the anæsthetic under the control of the administrator, so that he can regulate the quantity taken in at each inspiration, and at the same time it should be beyond the power of the patient to inhale more than that quantity. The folded towel is handy, most extravagant of the chloroform, irregular in the distribution of the anæsthetic, and contains an element of danger in unskilled hands, inasmuch as it presents an uncontrolled reservoir of chloroform to the patient, who inhales a greater or less quantity according to the depth of his inspirations. Allis's inhaler is the most rapid and economical, but is dangerous in unfamiliar hands. As in the case of the towel, there is an uncontrolled reservoir of chloroform over the patient's mouth. Flannel or other media stretched on a frame is a better apparatus, as the reservoir of uncontrolled vapour is limited. The same observation applies to the corner of a towel when used with a drop-bottle. Junker's inhaler is a pump forcing a definite quantity of air through a bottle, where it volatilises a certain amount of chloroform, and is then passed into a vessel placed over the patient's face. Its advantages are:—(1) There is no uncontrolled reservoir. Each stroke of the bellows provides for one inhalation, so that the patient cannot take more than that amount, however deep or irregular his breathing. (2) By placing five drachms of chloroform in the bottle one minim of the drug is expelled with each blast of the bellows. The amount taken up diminishes until, when one drachm is left, one-quarter minim only is expelled at each stroke. (3) No chloroform is wasted. (4) The stage of struggling is often entirely avoided. Dr. Macewen regards this as the safest form of inhaler, and the fact of the taking a longer time to place the patient "under" he does not regard as a drawback. "It is, however, to be

borne in mind that no inhaler is absolutely safe, that a fatal issue can arise even with the safest inhaler; after all, it is the physiological action of the drug on the individual which must be taken as the guide, though an inhaler such as Junker's permits definite doses to be given, and, in this way, secures at least precision of dose and definite dilution. A competent chloroform anæsthetist can administer chloroform without any form of apparatus, the towel is quite sufficient for him; he judges by the physiological action, and trusts to nothing else."

CLINICAL RESEARCHES ON TWO ANTI-SUDORIFIC AGENTS: CAMPHORIC ACID AND TELLURATE OF SODA.

By Dr. Combemale. (*Bull. Gén. de Therapeutique*, Jan. 15, 1891.)

Medical literature has lately been so filled with glowing accounts of new drugs and their properties that it is pleasant to turn to a paper like the present, in which it is sought to show new merits in two more or less familiar substances. The list of anhidrotic remedies is a long one, but, unfortunately, the claims of many of these are not substantiated by their effect on the night-sweating of phthisis. The author was, however, struck with the novelty of the attempt, in three papers by Drs. Leu, Dreesmann, and Neusser, to add to the reputation of the already known remedies, camphoric acid and tellurate of soda, and determined to enquire into the validity of their claims. His results are as follows:—

(*a*) *Camphoric Acid.*—There are five acids bearing this name, but the following remarks apply to dextro-rotary camphoric acid:—The drug was given in single doses of ʒss. daily in an alcoholic mixture to seven patients, five of whom were phthisical. The conclusions arrived at from a study of these cases are the following:—(1) Camphoric acid has a definite action on the night-sweating of phthisis; it generally arrests or diminishes the trouble, and is seldom without effect. (2) These effects are produced by single doses of ʒss. (3) No unpleasant effects of importance follow its use. (4) The remedy acts in tuberculosis more surely in proportion as the pulmonary lesions are less purulent.

(*β*) *Tellurate of Soda.*—There are four tellurates of soda, but the one chosen was the "normal" salt (NA_2TeO_4-$5H_2O$). This is the most soluble of the four. Neusser* used the potassium salt in doses of 2 centigrammes, and found that it might be given with safety up to 5 cgr. The only objection to its use was that the patients' breath smelt of garlic. The dose employed by the present writer was from 2 to 5 cgr. The drug was given in alcoholic mixture to eleven patients, seven being tuberculous, two were suffering from typhoid, one from acute rheumatism, and the eleventh from gastric ulcer. The conclusions arrived at were, briefly, as follows:—

(1) Tellurate of soda given in phthisis has a powerful effect on night-sweating.

(2) Doses of 5 centigrammes daily produce the desired effect with certainty; smaller doses are less certain.

(3) An odour of garlic may sometimes be imparted to the breath; its prolonged administration leads to some disturbances of digestion.

(4) The drug succeeds in all stages of tuberculosis, but a larger dose is required in advanced phthisis than in the earlier stages.

(5) The results obtained are more striking than with any similar remedy; camphoric acid, however, is the safer and better remedy for general use, possessing, practically, *no* disadvantages.

(6) The action of both drugs would seem akin to an antiseptic effect, possibly producing destruction of the soluble products of the microbes.

(7) The anhidrotic action is not confined to cases of phthisis.

* "Tellurate de potasse contre la sueur." (*Wien. klin. Woch.* 1890.)

THE RED-ROSE PETALS AS A REMEDY FOR DIARRHŒAS.

By Dr. Alexei V. Alexeevsky. (*Bolnitchnaia Gazeta Botkina*, Nos. 51 and 52, 1890, p. 1212.)

Dr. Alexeevsky, of Tambov, emphatically draws attention of the profession to a simple, cheap, and safe method of treatment of diarrhœas, borrowed of the Russian popular medicine, and consisting in the internal administration of an infusion of the red-rose petals (*flores rosæ rubræ* or *domesticæ*, obtained from the *Rosa Gallica L.*) A large pinchful of the dried flowers should be taken to each tumblerful of hot water, and the vessel (carefully covered with a saucer or any other suitable object) left to stand in some warm place for about two hours. An adult should be given two or three tumblerfuls of the infusion a-day, the daily dose for a child under five being a tumblerful or a cupful (given by portions in the course of the day). No sugar should be added, since otherwise "the taste of the remedy would be spoiled still further." The author tried the method in a series of chronic cases, selecting always such ones where a preceding treatment by various ordinary means had utterly failed to afford any relief. The results were invariably brilliant, as may be gathered from three illustrative cases, adduced by Dr. Alexeevsky in detail. In one of the cases, in that of a priest's wife, aged twenty-eight, with a highly obstinate diarrhœa of six months' standing, a marked improvement set in in a few days, complete recovery ensuing in a fortnight. Another patient, a girl of three-and-a-half years, with diarrhœa of one month's duration, was cured in a week; and the third, a little girl of two, with two months' symptoms, in two weeks. In all the three cases, the patients' general state correspondingly improved. Such beneficial effects of the red rose are attributed by the writer to the flowers containing, on one side, astringent substances, and on the other, an essential oil (*oleum rosæ*), which is endowed with powerful antiseptic and anti-fermentative properties. Dr. Alexeevsky hopes that the red rose will find a prominent place amongst remedial agents—more especially those employed for treatment of children's diseases. As to the *Rosa centifolia*, its healing virtues seem to be much inferior to those of the French rose.

[According to Dr. Hermann Hager (*Handbuch der Pharmaceutischen Praxis*, vol. ii., p. 816, and vol. iv., p. 1043), the red-rose petals contain tannin, quercitrin (similarly an astringent principle), essential oil, two fats (of which one is, and the other is not, soluble in an eighty-five-per-cent. alcohol), twenty per cent. of sugar, cyanin, pigment, etc. Cartier states that the red-rose flowers are more rich in astringent compounds than those of the *Rosa centifolia*. The red rose, Dr. Hager says, was formerly used especially as a remedy for respiratory affections. The petals of the *Rosa centifolia* enter into the composition of the old-

fashioned *pulvis infantilis rosatus* or *pulvis anti-diarrhœicus infantium* (℞ Pulv. magnesiæ cum rheo, petalorum rosæ incarnatæ, ana 5 grammes. M. D.S To give from ½ to 1 teaspoonful, with sugared water, several times daily), as well as of the *species adstringentes ad clysma*, used in cases of chronic diarrhœa (℞ Radicis bistortæ, 10·0; petalorum rosæ, 20·0; tinct. opii crocatæ *Ph. Germ.* gtt. 10. M. f. species. D.S. make an infusion with ½ litre of water, and strain; for two enemata). Dr. Bernhard Verzascha, of Basle (*Neu-Volkommenes kraeuter-Buch*, 1683, p. 74), eulogises both the *Rosa domestica* and *R. Sylvestris* (i.e., *Rosa canina*) as sovereign remedies for diarrhœas (*bauch-fluesse*) of all kinds, dysentery, as well as obstinate vomiting, blood-spitting, menorrhagia, spermatorrhœa, and even vesical gravel and calculi. In non-febrile cases of diarrhœa he advises to take a wine decoction of the petals; be fever present, an aqueous decoction should be resorted to. Dr. M. G. Sokoloff and B. M. Tchiglovsky of Omsk, Siberia (*The St. Louis Medical and Surgical Journal*, Nov. 1888, p. 292), similarly highly speak of the dog-rose as a remedy for diarrhœas. The flowers should be used in the shape of an infusion made of three drachms to six ounces of water, and administered a tablespoonful every two hours. According to Dr. P. F. Breitiham's analysis, such infusion contains about 1·8 per cent. of tannin.—*Reporter.*]

Gynæcology and Obstetrics.

SOME FORMS OF ABDOMINAL ABSCESS.

By G. A. Wright, B.A. (Oxon), F.R.C.S. (*Lancet*, Feb. 7, 1891.)

Abscesses, says the author, may form in many positions in the abdominal walls or cavity, and may be produced by a variety of causes. They may be intra-peritoneal or extra-peritoneal; the latter may be parietal or visceral. Many extra-peritoneal abscesses are due to visceral lesions—that is, are peri-visceral—such are peri-nephritic suppurations, etc.; others are due to bone or joint lesions, spinal disease, sacro-iliac disease, and so on. A few arise from the tracking downwards of empyemata or other intra-thoracic collections of pus; some are obviously traumatic. Intra-peritoneal abscesses are usually due to visceral lesions, in which the mischief has spread to some part of the surface of the affected organ that is covered with peritoneum; others result from a primary peritoneal lesion: such are some of the tubercular abscesses; others are obscure in origin—for example, subphrenic abscesses; others, again—primarily extra-peritoneal (parietal)—reach the peritoneum by direct extension. Diffuse suppurative peritonitis is, no doubt, most frequently due to the escape of certain irritating material into the peritoneal cavity. Such a condition is seen when one of the hollow viscera becomes perforated, and its contents leak into the peritoneal sac. Occasionally, of course, diffuse purulent peritonitis arises from other causes. Local peritoneal abscess has frequently a similar origin to that given in the case of the more widely-spread suppuration; thus we often see it occurring as a result of appendicular inflammation. Subphrenic abscess and some of the local tubercular absceses are instances of other forms. Why, in some cases, the suppuration is diffuse, and in others strictly localised, is at times difficult to explain. Usually it is a question of time, and the acuteness of the process; it takes time to form a firm barrier of adhesions around the irritating material. Sometimes, apparently, the feeble condition of the patient; sometimes what might be called the "indolence" of the peritoneum, its lack of reaction to irritation, is the reason for failure to localise the mischief. In considering the subject of abdominal abscess, it must, of course, be remembered that any form of localised suppuration may, by extension, affect other parts, or become diffuse. The paper continues by describing several cases illustrating the varieties of abdominal abscess.

UTERINE IRRIGATION OR INTRA-UTERINE CAUTERIZATION?

By Dr. Eichholz (Kreuznach). (*Der Frauenarzt*, H. 12., December, 1890.)

The author of this article sums up his conclusions as follows:—

(1) Uterine irrigations, with the usual disinfecting fluids of the strength permissible, have neither prophylactically nor therapeutically the value usually assigned to them.

(2) In consideration of their inefficacy and their attendant dangers—entry of air into vessels or the Fallopian tubes, possibly poisonous action—they should be replaced by other methods of treatment.

(3 In most cases, they may be advantageously replaced by brushing out the uterus, by the aid of a small camel-hair pencil, with a solution of chloride of zinc (50 per cent.). This is far more efficient than irrigation, without its dangers, and it has been strongly recommended by Rheinstaedter in non-puerperal cases. Dr. Eichholz, after a fair trial, warmly recommends it in the latter also.

So many deaths have been caused by irrigation that Fischer has declared their introduction to be more a misfortune than a blessing. Of the self-retaining specula, the author finds Trélat's the most practical, except the blades are a little too long, and it is better to replace them by a pair of Sims' short blades; the handle also should be so attached that the instrument may be used in any position of the patient. The uterus may be emptied by the aid of this instrument without any assistance. (Made by Dröll, Frankfurt-a-M.)

HYSTERO-NEUROSIS AND MELANCHOLIA CURED BY TRACHELORRHAPHY.

By Dr. Frank Churchill. (*New York Medical Record*, Jan. 31, 1891.)

There is little reason to doubt the intimacy of the association between disorders of the menstrual function, whatever their cause, and certain psychical disturbances; and cases, in which restoration of function has been followed by a return to mental health, are therefore of interest. The patient in this case was a young married woman, aged twenty-eight, with one child, born in June, 1888, by the aid of instruments. The menses returned on the baby being weaned in September of that year, but at this time she began to have sleepless nights; after a few weeks she slept little or none at night, being nervous and wakeful. She continued in this condition all the winter, gradually losing health and strength, and yet was able to do most of her housework, till the following April, when she began to neglect her housework and the care of her baby, and became absent-minded, silent, and despondent. About May, she

received a telegram announcing the death of a friend by suicide. The news caused severe mental shock, and produced an alarming increase of her symptoms. From this time on she became more gloomy and despondent, neglected her housework entirely, and had constant headache. She was under constant medical treatment from May to August, but her condition remained much the same. When seen by the author in August she was clearly a victim of melancholia. She had delusions of sight and hearing; the common sights of the streets and every-day topics of conversation would conjure up visions and thoughts that distressed her greatly. A careful physical examination revealed only a bilateral laceration of the cervix, and it was decided to endeavour to restore her health by medicinal treatment, and, if that failed, to operate. Sulphonal restored her sleep perfectly, a few simple remedies improved her appetite and regulated her bowels, so that by the first of September she had gained flesh and strength, and said she felt strong and well so far as her body was concerned, but her mental condition and actions were just the same. After seven weeks of this improved physical condition, trachelorrhaphy was performed, and almost immediately an improvement in the mental condition was observed. This was maintained, and the patient made a perfect recovery, and is now quite sane. The author points out that the mental disturbance was coincident with the partial re-establishment of the internal functions, and disappeared when, by operation, its integrity was restored.

A CASE OF DELIVERY PREVENTED BY CYSTIC DEGENERATION OF THE KIDNEYS.

By Dr. H. M. Fussell. (*New York Medical News*, January 10, 1891.)

The author describes the following rare and interesting condition, in a case which he saw in consultation:—Mrs. X—, third labour; first confinement, normal; second, head and shoulders born easily, but abdomen with considerable difficulty. Child lived a few minutes only, and certificate of death from malformation of the kidneys was given. Present pregnancy showed nothing unusual, except a good deal of abdominal pain. Head was delivered without trouble; the arms were then brought down and forcible traction used, but no further progress was made. On Dr. Fussell's arrival shortly afterwards, the child was dead. By passing the hand into the uterus, the enormously distended abdomen of the fœtus could be easily felt. Puncture of the abdomen was followed by the escape of a small amount of fluid, and it became evident that the obstruction consisted of a solid tumour. On enlarging the incision, the liver and intestines came away. Traction was then made on a portion of the tumour, and delivery readily effected. The child was a rather large male, and measured 18 inches round at the umbilicus. The kidneys were found to be enormously enlarged, the left measuring six inches by five and the right five inches by four. Both were lobulated and made up of a mass of small cysts, from the size of a pin-point to that of a pea. The heart was much hypertrophied. In his remarks the author quotes Virchow, who, in 1845, carefully examined a similar case, and expressed the opinion that the original seat of the cyst-formation is in the uriniferous tubules or in the Malpighian capsule, and that during the progress of the disease these cysts may lose their connection with the tubule from which they started. He believes that the original occlusion is frequently due to infarcts of uric acid salts, although that may be due to an inflammation starting in the pyramids. From the fact that the same woman may give birth to successive children with this abnormality, he thinks that the uric acid diathesis in the mother may be the original cause of the trouble in the child. After careful search, Dr. Fussell has found eleven cases where the kidneys were sufficiently large to impede labour, one only where mutilation of the child was necessary in order to effect delivery. In none of these has any hypertrophy of the heart been noted, but a normal state of that organ is several times reported. The explanation on the latter condition here advanced is, "There seems every reason for hypertrophy in such cases, for, although the heart of the fœtus is only secondary in supplying blood to the different parts, its work must be many times increased by the great resistance offered to the circulation, not only in the kidneys themselves, but in the whole abdomen and chest, owing to the pressure of the greatly enlarged kidneys." The fact that the hypertrophy was not limited to the left side may be readily explained by reference to the conditions of the fœtal circulation.

THE RELATION QF ALBUMINURIA TO PUERPERAL ECLAMPSIA.

By William S. Gardner, M.D. (*Therap. Gazette*, Jan. 15, 1891.)

We are still a good deal in the dark respecting the precise relationship of albuminuria and eclampsia. This fact induced the author to collect a number of observations, including a report of the per centage of cases of albuminuria discovered in one hundred and eighty pregnant and parturient women, taken consecutively, and an abstract of the records of the cases of eclampsia occurring within the selected period. The patients, whose urine was examined, were confined at the Maternity Hospital, Baltimore, between April 1, 1889, and August 1, 1890. The urine of each patient was examined soon after admission, and where albumen was once found, or where there were indications that it was likely to be found, the urine was examined repeatedly up to the time of labour. Patients who were admitted to the hospital while in labour were necessarily exceptions to this rule. Urine from all patients was examined on the first, and on the eighth day after labour. Thirty-four of the one hundred and eighty cases were in labour when admitted, so that it was not possible to examine their urine before labour. In the urine of the one hundred and forty-six cases examined, albumen was found eight times, or in about five and a half per cent. The urine from all cases confined was examined within twenty-four hours after labour, and albumen was found twenty-two times, or in twelve and two-ninths per cent. The urine from one hundred and seventy-seven patients was examined on the eighth day, and albumen found seventeen times, or in about nine and five-sixths per cent. Taking the whole one hundred and eighty cases, albumen was found one or more times in the urine of thirty-six, or in twenty per cent. Ninety-six of the patients were primiparæ; of these, albumen was found in the urine of twenty-two, or in twenty-three per cent. Eighty-four were multiparæ; of these, fourteen, or sixteen and two-thirds per cent., had albumen in their urine one or more times. Included in the one

hundred and eighty cases were four who had convulsions. This proportion is much greater than is ordinarily found, the rate, as is well known, being usually about one case of convulsions in five hundred pregnancies. To make the statement general, in a series of one hundred and eighty consecutive cases, five and a half per cent. were shown to have albumen in their urine before labour, and more than twelve per cent. of them the first day after labour. Included in this series were four patients who were attacked by convulsions. Of the four, in only one case was the presence of albumen detected before labour; in three cases there was a large quantity of albumen present soon after the convulsions; in one case there was never any albumen present; and in one there was no albumen present twenty-four hours after the convulsions.

While the number of cases recorded is too small to authorise any definite conclusions, considered as average cases, they warrant the following inferences: (1) The presence of albumen in the urine of a pregnant woman is no sufficient cause upon which to base a prognosis of probable eclampsia. (2) The failure to find albumen in the urine of a pregnant woman is no evidence of the absence, or, at least, of the continuance of the absence, of the condition that gives rise to puerperal convulsions. (3) Albumen is so frequently found in considerable quantities in the urine of patients immediately after the appearance of puerperal convulsions, that we are justified in making the statement that the convulsions are the probable cause of the albuminuria.

Pathology.

THE ARTICULAR AND PERI-ARTICULAR COMPLICATIONS OF DIPHTHERIA.

By M. B. Lyonnet. (*Lyon Médical*, Jan. 4 and 11, 1891.)

Joint-complications in diphtheria are very rare; one might say, with Trousseau, "la diphthérie n'aime pas les articulations." Systematic authors, in general, either make no mention at all of these complications, or just name them without further description. This being the case, the paper under consideration is a valuable addition to medical literature. The author has been at much pains to seek out and describe all recorded cases of the affection, adding to these the description of a case under his own observation. From a study of these, the joint affection may be said to belong to the class of infectious arthritis, and it may arise in one of three ways:—(1) From direct infection of the serous membrane with the specific bacillus of the primary affection; (2) from the effects of a poison secreted by the bacilli and "excreted" into the joints from the blood-current; (3) as a result of the entrance of a fresh microbe, different from the first, which finds a suitable soil in the synovial fluid. The writer is inclined to attribute the attack in his case to the third cause. On the question of diagnosis, we must be on our guard lest we mistake, for a complication of diphtheria, one really due to scarlatina or gonorrhœa. The paper ends with the following general conclusions:—(1) Articular complications of diphtheria are very rare, but their existence cannot be denied. (2) These complications are generally secondary infections; they may take the form of acute or subacute arthritis, generally serous, sometimes purulent, and appear most often during convalescence. (3) Besides the actual joint affection, there occur peri-articular trophic troubles due to a nervous lesion. These take the form of hyperplasia of the region, coming on after the nervous system is obviously affected, and long after the commencement of the disease.

LEUCOCYTES IN DISEASE.

By Dr. Castellino. (*Gazzetta degli Ospitali*, No. 4, 1891.)

Dr. Castellino communicates the result of his observations upon the white corpuscles of the blood in different morbid conditions. His researches, which were conducted in the laboratory of the medical clinique in Genoa, have occupied three years of observation on more than a hundred patients. His conclusions are as follows:—(1) Along with the destruction of the red globules of the blood there is an increase in the white globules in the following diseases, which are arranged in the degree of the number of the said leucocytes: pneumonia, erysipelas, scarlatina, pleurisy, and typhoid fever. (2) These leucocytes rise in quantity with the temperature, and, except in the case of pneumonia and erysipelas, begin to diminish with the decline of the fever. (3) In these two last diseases the leucocytes only begin to diminish several days after the crisis is past. (4) In acute infections there is a predominance of small white globules, which are finely granular with one nucleus (the leucoblasts of Löwit). (5) In leukæmia and chronic infectious diseases (such as syphilis, malaria, and lead-poisoning), there is a predominance of the large leucocytes with coarse granulations, having many nuclie without nucleoli (Erythroblasts of Löwit). Many of these granules answer to the chemical and microscopical tests of fatty substances.

EFFECT OF KOCH'S FLUID ON THE BLOOD GLOBULES.

By Dr. Castellino. (*Gazzetta degli Ospitali*, No. 1, 1891.)

Dr. Castellino, assistant in the medical clinique of Dr. Mariano, has begun to make observations upon the condition of the blood in patients subjected to the action of Koch's lymph. His enquiries were directed to the measurement of the red globules, the destructive power of the serum upon the globules, the colour of the blood and that of the serum, the power of resistance, and the appearance of the red globules. The blood was carefully examined before any injections of Koch's liquid were made. In three patients doses of 1—3 milligrammes were found to produce no notable alteration, but doses of 4—5 milligrammes were followed by a diminution in the number of the blood-globules, and a sensible modification in the deep red colour of the blood and a diminution in the resistance of the globules. Their shape was not affected. The serum obtained in glass tubes was more turbid than normal, and had a greater destructive power upon healthy blood. In doses above 5 milligrammes these modifications were more marked, and the changes appeared to have some relation to the degree of constitutional reaction. Twenty-four hours after a new injection, the blood appeared to be in better condition, but had not regained its former state. The

author promises to return to the subject with further observations.

Bacteriology.

AN ALKALOID DERIVED FROM TUBERCLE-BACILLI.

By Prof. Zuelzer. (*Berliner klin. Wochenschr.*, No. 4, Jan. 26, 1891.)

The alkaloid was obtained in the following manner:—The whole contents of the tube holding the bacillary growth were repeatedly extracted with hot water acidulated with hydrochloric acid, filtered, evaporated down, and repeatedly precipitated with platinum chloride; the double salt was then split up by H_2S, filtered and dried. An almost white, well-crystallized salt was thus obtained, easily soluble in hot water. This hydrochloride caused, when subcutaneously introduced into rabbits and guinea-pigs, the following characteristic toxic symptoms: one centigramme increased the frequency of respiration within five minutes to 180 in the minute. This effect lasted about a quarter-of-an-hour. At the same time, the rectal temperature rose from 38° C. to 40° in two out of ten experiments; in the rest, from half to one degree. The bulb of the eye showed a remarkable protrusion; the eyes were very lustrous, the pupils somewhat dilated, and there was slight congestion. The protrusion was greater on the side of the injection. Only three rabbits died; they had received between two and three centigrammes, and died within four days. There was redness and extravasation at the sight of injection; also small hæmorrhages in the stomach.

THE INFLUENCE OF THE INJECTION OF KOCH'S FLUID UPON THE TUBERCLE BACILLI IN THE SPUTUM.

By Dr. J. Amann. (*Centralb. f. Bakteriologie u. Parasitenk.*, vol. ix., No. 1, Jan. 8th, 1891.)

A communication of great interest in the present position of the history of Koch's remedy will be found in the paper of Dr Amann. He has examined, this season, the sputa of no less than 288 patients, of whom 198 had been subjected to the new treatment by inoculation with Koch's fluid. The sputa of these patients was examined either every day, every other day, or every two, three, or six days, and the observer has come to some very definite conclusions upon the subject. These are the following:—(*a*) The marked changes which the new method of treatment exerts upon phthisical sputa, and which seem so remarkable to the experienced observer, without doubt prove that the new remedy must exert a powerful influence upon tubercular growths themselves. (*b*) The quantity of sputa after each inoculation-reaction is, as a rule, increased (in one case from 300 centimètres to 140 centimètres daily). (*c*) The number of tubercle bacilli in the sputa, as a rule, shows a remarkable increase. In seventeen patients, in whose sputa the bacilli were either absent or very scanty, after the inoculation, the sputa showed a considerable number of the bacilli. In this way Koch's fluid may prove useful from a diagnostic point of view. (*d*) The remedy has an unmistakable effect upon the form of the bacilli. The bacilli appear to be broken down into streptococci or into short, often punctiform, bacilli. (*e*) After the treatment, the characteristic ability of the tubercle-bacilli to withstand decolourizing reagents is markedly decreased in some cases. Those most easily decolorized are the long and thin bacilli, which are believed to be characteristic of *old* tubercular processes. (*f*) In about 40 per cent. of the cases, the amount of elastic alveolar fibres undergoes an important increase after each reaction.

THE PREVENTION OF PNEUMONIA.

By Prof. Foà. (*Gazzetta degli Ospitali*, Jan. 18, 1891.)

It has been ascertained that, by injecting an attenuated culture of the diplococcus of pneumonia, the animal obtains an immunity against pneumococcic infection, which lasts for several months. Prof. Foà has recently published further researches on the same subject (*Policlinico*, XVIII., 1890; *Gazz. Med. di Torino*, I., 1891). He has obtained by means of sulphate of ammonia a precipitate from the culture in broth. This being repeatedly filtered, a substance is obtained which, introduced in sufficient doses during three or four days into the blood of rabbits, so modifies the constitution of the animal that it cannot be infected with the diplococcus. Prof. Foà also made an extract from the muscles and viscera of a rabbit, dead through the injection of pneumonia. This extract was filtered and precipitated with sulphate of ammonia, and then dialyzed and dried.

The substance thus obtained, introduced into the veins of a rabbit, renders it proof against infection of the diplococcus, while an extract of the muscles and viscera of a healthy rabbit, prepared in the same manner, had no such preventive effect. Dr. Foà now studied the properties of the blood of the animal thus rendered proof against infection. He observed that its blood, collected in a sterilised vessel, and kept in the temperature of 30°C., coagulated rapidly, though the coagulum was not copious. In from two to three hours there was separated an abundant and limpid serum. Then introducing this serum under the skin of a healthy rabbit in small doses, repeated for two or three days, he rendered the animal proof against the infection of diplococcus of pneumonia. Dr. Foà then undertook some researches, not yet finished, on the blood of a man affected with pneumonia. He observed that this blood behaved like the blood of the rabbit rendered proof against pneumonia, as regards the coagulation and the separation of serum. Then injecting this serum in doses in rabbits, after having diluted it with a normal saline solution and filtered it, he found that the rabbits died later on. Dr. Foà observed that in the culture of the diplococcus several species of virus are produced, one of which is found to act on the nervous system, and another upon the blood and the tissues.

ON THE PRODUCTION OF IMMUNITY IN ANIMALS AGAINST ANTHRAX BACILLI.

By Prof. Loeffler. (*Centralbt. f. Bakterologie*, vol. ix, No. 1.)

The author draws attention to, and epitomizes some very important researches recently made in the Medical Faculty of the Imperial University of Tokio, Japan, by Prof. Ogata and Mr. Jasuhara, upon the above subject. These observers started from the

well-known fact that certain kinds of animals possess an innate immunity against anthrax. The theories seeking to explain this immunity so far had not, in their opinion, been sufficiently clear, and hence their experiments. Their points are as follows :—The frog is an animal immune to anthrax ; in a broth of frogs' flesh, however, anthrax bacilli are capable of growing without their virulence, when injected into mice, being impaired; and, although the immunity which frogs enjoy is destroyed by a high temperature, they found that anthrax bacilli grown upon frogs' blood, when injected into mice, only produced a temporary illness, but not death, whereas control-animals inoculated with bacilli grown upon nutrient gelatine all died. Of the twenty-six mice which escaped anthrax when the cultures were grown in frogs' blood, ten were, after some weeks, further inoculated with anthrax bacilli grown upon potatoes ; they died, but only after three to six days, whereas control-animals died after two days. This seems to indicate that a partial immunity had been conferred upon them by the former injections. The authors made further experiments with anthrax bacilli grown upon blood, blood-serum, and blood-clot, of *white rats* and *dogs* (immuneto anthrax) as well as of *rabbits* (not immune animals) by inoculation of mice with the cultures. *The mice inoculated with the cultures grown in the blood of the immune animals did not die*, but those inoculated from the rabbits' blood-cultures did die. It was further shown that *the injection of the blood of animals, found to be insusceptible to anthrax, into animals which are susceptible, gives the latter a certain amount of immunity* to injections of the virus ; for example, a guinea-pig, after having been inoculated with virulent anthrax, was further injected with 20 drops of a saline solution of frogs' blood ; it was rather ill, but did not die ; a second animal was treated with defibrinated dogs' blood. instead of frogs' ; it became slightly ill, but did not die ; the control-animal died in two days. Two rabbits were treated similarly to the guinea-pigs with similar results. All of these animals, some weeks afterwards, were still able to withstand virulent anthrax.

BACTERIOLOGICAL EXAMINATION OF TUBERCULAR SPUTUM.

By Dr. A. Weber. (*Rev. Gén. de Clin. et de Thérap.* December 31, 1890.)

Very soon after the discovery in 1882 of the tubercle bacillus, the diagnostic value of its presence in the sputum became recognised. At the present time the expression "bacilli in the sputum" has become almost synonymous with tubercular lesions of the respiratory tracts. It was important to have this means of confirming one's diagnosis, and the importance of being able to detect the bacilli at the earliest possible moment will be specially recognised at the present time. If Koch's claim to have found a remedy for phthisis be fully established, it is certain that this remedy will act most favourably on the earliest cases, and it will be the duty of every practitioner to familiarize himself with the process of examination of the sputum for tubercle bacilli. The terms "bronchitis," "neglected cold," so often used to patients as a cloak for the more serious condition, ought to disappear from the language of the physician. Diagnosis of phthisis once established, it is to the interest of all concerned that no secrecy should be adopted. The patient must undergo treatment ; the interest of his family, of society at large, is at stake, for they must be preserved from contagion. Lastly, the physician will do well to bear in mind that although in the earliest stages some will recoil from the rigorous measures necessary, yet a true diagnosis and a good prognosis are never lost, and he will have the comfortable feeling that he has done his duty to all concerned. The methodical search for the bacillus in the sputum must be considered in three stages :—(1) The selection of the sputum ; (2) the process of staining ; (3) the microscopic examination. As these processes may not be familiar to many readers, it may be as well to give a somewhat detailed account of the method. First, as regards choice of sputum : if there be hæmoptysis, the choice is no great consequence, but it is best to choose a specimen as free as possible from blood, as the semi-sanguinolent sputum will contain only a small number of bacilli—necessitating very careful examination. If the sputum be truly nummular or muco-purulent, then the purulent parts alone should be selected as being richest in bacilli. To prepare the specimen for staining, a portion is taken as big as a pin's-head, and deposited on the centre of a perfectly clean cover-glass (which has been previously passed through a flame) ; a second glass is then laid over the speck of sputum, and the two glasses, after having been firmly pressed together, are gently slid apart. They are then allowed to dry for a few minutes, after which the film is fixed by passing it rapidly several times over the flame of a spirit-lamp. The simplest method of staining the film thus obtained is the following :—A small quantity of saturated, watery solution of aniline oil is placed in a capsule, which is warmed over a spirit-lamp. Fuchsine in saturated alcoholic solution is then added till the mixture assumes a dark-red colour. The cover-glass is then placed in the hot mixture, and the whole is brought up to boiling-point. The cover-glass is then withdrawn, washed in water, using a free stream, and then plunged a few seconds in diluted nitric acid (1 : 3). The excess of acid is washed away with water, when some of the colour which disappeared in the nitric acid will return. The discoloration is to be completed by immersing the glass in alcohol—first weak and then strong. Nothing then remains but to allow the specimen to dry, and to mount it in balsam, preparatory to examination under the microscope. The bacilli will appear bright red on a colourless ground, and can be seen plainly with a one-sixth obj., but it is better to use an immersion lens of somewhat higher power. In doubtful cases it is well to prolong the staining by using a cold colouring-bath, and allowing the specimens to remain immersed for about twenty-four hours. The bacilli can be rendered also more distinct by immersing the film for a few minutes in a saturated alcoholic solution of methylene blue ; they then appear red on a blue ground. To recapitulate, all that is necessary for the examination is as follows :—Cover-glass, lamp, capsule, and an ordinary microscope ; the reagents being aniline-oil water, fuchsine solution, nitric acid, and spirit. The amount of skill required is such as need deter nobody from making the examination for himself.

It has been decided by the Members of the General Medical Council that the election of a President in the room of Mr. Marshall, deceased, may be postponed until the regular meeting of the Council in next May, as most of the business likely to fall to the lot of a President during that period has already been transacted by Mr. Marshall.

Dermatology.

NEW TREATMENT FOR ALOPECIA AREATA ("PELADE").

By Dr. Chatelain. (*Rev. Gén. de Thérap.* December 31, 1890.)

Alopecia areata is one of the most obstinate diseases to treat, and any plan which promises success is well worthy of trial. It has been suggested by M. Chatelain that the parts should be painted with iodised collodion (1 : 30), the application to be repeated once every week. The remedy was tried in three cases, and proved so successful that in five weeks cure was complete. Whether the method will succeed in dealing with larger areas, remains to be seen,—in all the above cases the disease was limited and clearly circumscribed. It is suggested that the cure may be due to the layer of collodion forming an impervious coating over the diseased parts, which excludes the air from the specific microbes, supposed to be aërobic. This coating also prevents spread of contagion to other cases.

Ophthalmology.

IS THERE A TOBACCO AMBLYOPIA?

By Dr. E. V. Agramonte. (*New York Medical Record*, Jan. 17, 1891.)

In the course of a discussion on tobacco amblyopia, before the New York Academy of Medicine, Dr. Agramonte remarked that the condition of the optic nerve shown on the lantern slides was a hyperplasia of the connective tissue. He asked whether any practitioner had seen a connective-tissue hyperplasia in any other organ of the body produced by tobacco. In Havana, where they used a great amount of tobacco, there were comparatively few cases of amblyopia, fewer than in New York. In the cases seen there the cause had been recognized as due to alcohol, not to tobacco. It was known, too, that alcohol would produce sclerosis in other parts of the body, and naturally one would expect that it might produce it in the optic nerve. As to the heart, he knew of no case in which it had been demonstrated *post mortem* that tobacco had produced hyperplasia of the connective tissue in this organ. He himself was not a smoker, yet for two years, while in the dissecting-room, he smoked, and suffered from so-called functional disease of the heart in a marked degree, and during that time had had to undergo ether narcosis, and the doctors said he took the ether well. As soon he he left off tobacco he ceased to have heart symptoms. Then, it was known that persons would admit the use of tobacco and deny the use of alcohol, which might lead one to suppose that the amblyopia was due to the use of the former, when in fact it was due to the secret use of the latter.

IRITIC UVEITIS.

By Dr. Grandclément. (Soc. des Sciences Médicales de Lyon," *Lyon Medical*, Jan. 11, 1891.)

Under this title is described a form of inflammation differing from ordinary iritis in being confined to the uveal pigmentary layer of the posterior surface of the iris, and mainly to the extreme pupillary margin of this. The affection is very insidious, not being marked by any of the symptoms—pain, circum-corneal injection, discolouration—usually observed in iritis. All that can be observed is the gradual diminution of vision and the slow and periodical formation of posterior synechiæ. The ætiology is uncertain; the failure of mercury, iodides or salicylates, to check its course, would seem to show that the affection is neither of syphilitic nor rheumatic origin. As regards treatment, the author adopts purely surgical measures. If there be several synechiæ, he performs a large iridectomy in the ordinary way; if, however, there be but few, he adopts another measure. With a Graefe's knife a simple puncture and counter-puncture are made. The instrument is then withdrawn without further cutting, and by fine forceps, introduced through the punctures, the adhesions are released. Prolapse of the iris does not occur if care be taken during the operation, and on withdrawing the instrument the pupil is kept well dilated by means of atropine. The operation does not, as a rule, restore the lost acuity of vision, but it is very desirable as a measure to prevent the eye from becoming more seriously involved.

SURGICAL TREATMENT OF TRACHOMA (GRANULAR LIDS).

By Dr. Darier.

(*Bull. Gén. de Thérap.*, Dec. 30. 1890.)

All the old methods of treatment for trachoma, of which perhaps the most usually employed in France is cauterisation by copper sulphate, require a great length of time before a cure is effected. The results obtained by the writer with his *radical* operation seem to be much more satisfactory, as he notifies the cure of several cases, in from seven to fourteen days. His method is briefly as follows:—Having chloroformed the patient, the lids are completely everted by means of special forceps, and the mucous surface is freely scarified to lay bare all the deeper granulations. These are then very carefully and thoroughly scraped away by means of a sharp curette, and the bleeding surface is well brushed by a stiff brush dipped in 1 : 5000 solution of corrosive sublimate. The process is tedious, but it is stated to be one which well repays both surgeon and patient.

NOTES ON GLIOMA RETINÆ.

By Drs. J. B. Lawford and E. Treacher Collins. (*Royal London Ophth. Hosp. Reports*, xiii. part 1.)

Last month we referred to a paper by Lagrange on the prognosis of retinal glioma, in which he expressed a belief that recurrence was not so frequent as it is generally believed to be; that opinion, however, was not supported by sufficient facts. The present is a statistical paper, in which an attempt is made to trace the after-history of sixty cases, in which eyeballs had been excised for glioma. Anyone, who is conversant with the ways of hospital patients, will at once admit that this is a difficult task. It is satisfactory, therefore, to find that something is known of the after-history of all but sixteen of the cases, and in five out of these sixteen the result may be inferred, almost with certainty, to have been death. From the fact that there is one case on record in which recurrence occurred three years after enucleation, the authors have only classed as "cured"

those which were known to have been alive and well three years after the operation. Of such cases there are eight. This standard is, however, an extremely high one, and most surgeons would consider that local recurrence may be excluded almost with certainty after a year. Taking this limit, thirteen cases may be considered as recoveries. In only two of these was the optic nerve thought to be involved at the point of division. In two other cases an interval of seven and nine months respectively had elapsed. One case (No. 9) is peculiar, in that three and a-half years after the removal of one eye there was no recurrence in that orbit, but the other eye was the seat of a tumour; this eye was removed, but the after-history is unknown. Twenty-eight cases are known to have been fatal; in six of these both eyes were affected. In five others the after-history is not known; a fatal result was almost certain. These are as follows:—No. 7. Optic nerve deeply invaded; enlarged glands under angle of jaw. No. 11. Optic nerve invaded; recurrence in orbit three months later. In Nos. 19 and 36 there was a growth in the other eye which was not removed. No. 60 is still under observation; there is a growth in the second eye, and a probable one in the frontal bone.

Out of the twenty-eight fatal cases, the optic nerve was involved at the time of operation in nineteen; it was unaffected only in four; in one of these, however, the growth had perforated the sclera. In the cases of recovery the nerve was only known to be affected in in two. It is to be noted that in these, the period of after-history only extends to twelve and seventeen months respectively. It is evident, therefore, that the condition of the optic nerve is, as might be supposed, *a priori*, the most important element in the prognosis.

A NEW METHOD OF TREATING TRACHOMA.

By Herr V. Hippel. (*Berliner klin. Wochenschr.* No. 5, Feb. 2, 1891.)

This method, originally recommended by the brothers Keining, consists in the energetic local application of corrosive sublimate solution (1 in 2,000). Ordinary applications are almost without effect in this troublesome eye disease. Jequirity-injections are limited to chronic cases with hard granulations and thick pannus. As to operations (Heisrath's excisions), too much mucous membrane is easily cut away, unless under a very practised hand, and subsequent contraction impairs the usefulness of the eye; the lid is also on a low level; finally, excisions do not absolutely bar relapses. In using the sublimate solution on a cotton-wool pad, the latter is drawn with some pressure along the ectropiated lid from within outwards; sometimes cocaine is used. Hard follicles are previously pricked; soft follicles are dispersed by the friction. Of twelve recent cases, eleven were thus completely cured; the follicles had disappeared, and nothing remained but a little catarrh; the duration of treatment was from 12 to 47 days. In fifteen chronic cases, the follicles retrogressed in 9, the treatment lasting 18 to 42 days; a distinct clearing of thick pannus occurred with increased vision; the others were still under treatment. The question of relapse still remained open. Herr Heisrath had thus treated fifty cases; but advised caution, as ulcerations had occurred in previously healthy corneæ.

ETHYLATE OF SODA IN GRANULAR LIDS.

By Dr. M. T. Symons. (*Australian Medical Gazette*, vol. x., No. 2.)

Chronic granular ophthalmia seems to have been successfully treated by Dr. M. T. Symons, of Adelaide, by the application of ethylate of soda. Its caustic action is said to be three times that of nitrate of silver, but when carefully applied causes a minimum of pain at the time, and is not followed by any severe reaction. In applying it the lid is everted, and the exposed surface thoroughly dried with absorbent wool, the ethylate is then smeared on with a glass rod, the excess being carefully removed with dry cotton wool. No water should be used at any time, though the conjunctiva may be rendered anæsthetic with cocaine.

Dr. Symons reports a case in which strong solutions of nitrate of silver, bichloride of mercury, tannic acid scarifications, and electricity were all used without much avail, though ethylate subsequently brought about a steady improvement. The granulations were largely replaced by cicatricial tissue, and the cornea, together with the conjunctiva, attained a much healthier state. The addition of a few drops of chloroform prevented any hyper-erosive action of the application.

Toxicology & Medical Jurisprudence.

A CASE OF CHRONIC COCAINISM.

By M. Lewin. (*Le Mercredi Médical*, Jan. 7, 1891.)

Cases of chronic cocainism are somewhat rare, although acute cases of poisoning are frequent enough. M. Lewin reports the following instance:—A young man of twenty-seven, with somewhat neurotic antecedents, had his throat and nose painted in 1885 with five-per-cent. cocaine solution; part of this was swallowed, and he gradually acquired the habit of taking the poison. After two or three years he took every day as much as five to ten grammes of cocaine. The symptoms produced in consequence were palpitation, complete loss of appetite, and emaciation. There were, besides, vertigo, hallucinations, and insomnia. He had ideas of persecution, and in the morning on waking he saw white spectres, or people talking to him in languages he did not understand. The memory also suffered, and the patient had fits of partial or complete amnesia. M. Lewin considers this to be a case of "cocaine epilepsy."

A CASE OF POISONING BY SULPHONAL.

By Dr. Dillingham. (*N. Y. Med. Rec.* Dec. 12, 1890.)

Sulphonal is generally supposed to be very slightly toxic, and without action on the heart. The following case will help to show that the drug is not always as innocuous as is supposed. About twenty-four grains had been given to a patient for insomnia, and the dose was followed shortly by coma and stupor; his respiration became stertorous, pulse weak, and extremities cold. There was, besides, deviation of the face and ptosis of the right eyelid, with absence of sleep and retention of urine. Next day the stupor continued; catheterism was resorted to, in order to relieve the distended bladder. The rectum also was

paralysed. These symptoms only disappeared on the fourth day, leaving still some incoordination of movements, which persisted for several days. Thus sulphonal may, in certain persons, produce grave cardiac and muscular troubles even after small doses. This is a fact worth remembering in prescribing the drug for the first time.

Reviews.

The Manual of Surgical Anatomy. By Alfred W. Hughes, M.B., M.Ch., F.R.C.S. (Ed.). Edinburgh: E. & S. Livingstone.

This is a very handy little synopsis of the more noteworthy facts of surgical anatomy—those points, indeed, which require to be firmly impressed upon the student's memory, and must therefore be made more accessible to him. The book, though small in size and printed in readable characters, contains a large amount of valuable information, and the text is reinforced by several coloured drawings of the parts *in situ*. As a "Student's Aid," it meets a want on this side of the Border.

The second edition of Dr. Husband's little guide to the examination of the urine has the advantage of quasi-microscopical dimensions, large type, and plates of the crystalline substances usually met with in the urine. The plates may serve to enable the student to identify what he sees through the microscope, but we would not recommend him to trust to them alone for examination purposes, nor, we are sure, would the author. The information appears to be complete, and not unduly concise. It seems a pity to have added to the thickness of such a small book by inserting thirty pages of advertisements, but, as the price is only a shilling, perhaps one is not entitled to complain. It is published by E. & S. Livingstone (Edinburgh).

Aphorisms in Applied Anatomy and Operative Surgery. By Thomas Cooke, M.D. (Paris); F.R.C.S.; Lecturer at the School of Anatomy, Physiology, and Surgery. 1891.

This little book is really a sort of syllabus of the work done in the author's courses of operative surgery, somewhat amplified, and preceded by a few notes on the leading points in applied anatomy and surface-marking. Students who have learned to appreciate the conciseness of the author's "Tablets of Anatomy"—and they must be many—will know what to expect from a successful teacher of so many years' standing, and their anticipation will not be disappointed. The brief notes, if used, as they are directed to be used, in conjunction with practical instruction on the dead body, will suffice to "level up" the student's knowledge, and will ensure that no essential points are overlooked. In spite of the never-ceasing issue of books for students, this little work will supply a long-felt need.

Urinary Disorders. By Dr. Reginald Harrison.

A collection of lectures, delivered by the author at St. Peter's Hospital, is here presented to the reader. The chief disorders noticed are enlargement of the prostate, hæmaturia, and stone in the bladder. These are described in a concise practical way, stress being laid on the treatment of the various symptoms. Special attention is directed to the prevention of prostatic obstruction by the systematic passing of bougies, not catheters. The bougies particularly recommended are the whip-bougies and "bougies à ventre"—bellied near the head. By this means the way is kept patent, the tunnel unobstructed, and the residual urine ultimately abolished. The alteration of the quality of the urine by the internal administration of certain drugs, *e.g.*, quinine, boracic acid, so that it is, so to speak, sterilised, and its septic effects (rigors, urethral fever) after catheterisation, internal urethrotomy, &c., abolished, is emphasised. The facts cannot be two well appreciated by the profession. Of the more or new drugs that are recommended, Pichi (as an infusion *ad lib.*) and saccharin (in half-grain doses) appear to be distinctly useful, the former in renal colic, the latter in cystitis—as advocated by Dr. Little; the advantages in the use of the saw Palmetto are not so evident, and there is nothing to warrant its adoption in lieu of at least equally efficacious remedies found in the pharmacopœia, *e.g.*, pariera. In the last lecture the pathology of gleet is described—also the prevention of stricture: deep urethral irrigation by means of a special apparatus is counselled as being much more efficacious than the ordinary syringe.

The Daughter: Her Health, Education, and Wedlock. By William Capp, M.D.

This little work addressed, as it mainly is, to mothers differs from most of its class; it does not take into consideration the ills of the flesh, "peculiar to the sex," so much as the good that results from a suitable physical and moral environment. Thus it is shown that the character and manners of the mothers are closely imitated by the child—nay, even by the infant. The author insists on the fact that a child is not advanced by being taught its letters until the age of nine: the physical development alone should be cared for until then. The co-education of the sexes up to the age of puberty is advocated. The severe application of girls to study between the ages of fourteen and nineteen is deprecated as prejudicial to her *physique*, though the thorough education of woman is distinctly contended for. Mothers are strenuously counselled to impart to their daughters so much as is essential for the proper understanding of matters relating to sex and perpetuation of species, so that incorrect impressions may not be received from ignorant or vicious persons.

In the remarks about infant-feeding, the statement that there is no advantage in having milk from the same cow, is one which merits to be widely known. Even healthy cows vary very considerably in the quality of milk they yield, and this variation is quite sufficient to make a great difference to a child possessing an irritable or delicate stomach, but the average product of the mixed milk from a number of cows is of a remarkably constant strength, and is therefore to be preferred. Moreover, in towns it is impossible, were it even desirable, to guarantee a single-cow supply of milk, the pretensions of the milk-vendors to the contrary notwithstanding. It is, therefore, better to use the ordinary mixed milk. The giving of meat to infants even in the second year (as implied in the text) is, however, hardly to be recommended without regard to the general conditions. Some children seem to be better without it altogether for the first four or five years of life.

The work concludes with remarks on personal hygiene, treated somewhat sparingly, and the treatment of various slight ailments. The consideration of sprains, recent and old, poisonous bites, &c., does not add any value to the book, and might advantageously have been omitted, inasmuch as they are out of keeping with the general character of the work. The work, however, is one replete with useful information, and must commend itself to young mothers—and others. The style is vigorous, but the author has a light, easy touch, which imparts a charm to his writings—a rather fortunate circumstance, seeing that he is a tolerably prolific author.

A Handbook of the Diseases of the Eye. By H. R. SWANZY. Third edition. London: H. K. Lewis. 1890.

WE are glad to see another edition of this most excellent handbook. The alterations consist in the correction of a few errors in the edition of 1888, a better arrangement of affections of the uveal tract—so that these, including sympathetic affections, are all placed in one chapter, and some additions to the subject of ocular symptoms, as an aid to the localization of cerebral affections. We note also a considerable paragraph added to the chapter on cataract extraction, pointing out the advantages of retaining the iridectomy as part of the operation.

Although retaining a characteristic which we consider detracts from its usefulness as a student's manual—namely, insufficient prominence given to slight and superficial affections—the additions that have been made certainly increase its usefulness, and, unless the size of the work is to be increased, it is difficult to see how it could be further improved.

Diabetes: its Causes, Symptoms, and Treatment. By Dr. CHARLES PURDEY. London and Philadelphia: F. A. Davis. Pp. 184.

THIS little work, one of the Physicians' and Students' Ready Reference Series, furnishes in a practical and concise form all that is to be said about diabetes. Physiological and etiological questions are amply discussed, but the author devotes especial attention to symptomatology and treatment. The latter subject is treated with considerable minuteness of detail, especially with regard to the all-important question of diet.

The practitioner will find in this book a valuable aid in managing cases of diabetes. The ordinary text-books give him little help in this respect, as the directions for treatment are necessarily very brief. Now brief general directions are all very well to keep fixed in the mind, but something more is wanted by the practitioner who is called on to furnish specific directions as to almost every possible article of diet, under the most varied conditions. In the matter of beverages, for example, Dr. Purdey points out that harm is often done by permitting diabetic patients greater liberties than is good for them. Many beverages which are allowed in the stereotyped lists in text-books contain considerable amounts of sugar. Coffee is permitted in all diabetic lists, and yet Dr. Purdey finds that the best grades of Java and Mocha contain ten per cent of sugar. A list of above a hundred different kinds of alcoholic beverages is given, with the amount of sugar per fluid ounce in each. The work closes with a clinical record of cases and a fairly complete bibliography.

Lupus and Tuberculosis of the Larynx treated by Koch's Method. By DR. MICHAEL. *(Journal of Laryngology and Rhinology,* January, 1891.)

DR. MICHAEL, of Hamburg, has collected the experience of different observers upon the efficacy, the dangers, and the limits of Koch's treatment in tubercular disease of the larynx. The questions which he considers are of most concern to laryngologists are these:—(1) Can a certain diagnosis be made by the medicament? (2) Is the new treatment a specific for laryngeal phthisis and lupus? (3) Must it be combined for this purpose with local treatment? (4) Is the swelling produced by the local reaction so great that tracheotomy is often, or ever, called for? These questions he would answer, so far as present knowledge goes, as follows:—(1) Laryngeal tuberculosis and lupus in all cases are influenced by the lymph in a similar manner, and other diseases are not so influenced, so that a certain diagnosis can be made from the local and general reaction. (2) It may be said, though with the greatest reserve and scepticism, that the treatment has an influence on the local state, and that this influence is a favourable one. It is not yet time to say if a complete and durable cure can be obtained. (3) The limits of the power and effect of the method are not yet known; it is, therefore, not yet the time to combine with it any local treatment. (4) In spite of great degrees of swelling, in the majority of cases no stenosis has arisen in the period of reaction. It will not, therefore, be necessary to perform tracheotomy. It will, however, be judicious to have all prepared for the operation in case of unfortunate exceptions. Having answered these cases *seriatim*, Dr. Michael proceeds to give a brief report of the cases published in Germany, and the views of the Berlin laryngologists. He concludes with a relation of his own cases observed in the Jewish Hospital in Hamburg. These consisted of sixteen cases of laryngeal diseases. Of these cases, twelve were laryngeal phthisis; one a case of lupus of the pharynx and larynx; one a case of lupus of the nose and larynx, and one a case treated with dubious, and one with negative, result. The cases of laryngeal phthisis were very serious in degree and character. Benefit was derived in the majority of cases. Infiltrations diminished, ulcers cicatrised, dysphagia, cough, and expectoration improved. In a minority of cases no improvement was noted in the objective appearances, or the subjective symptoms.

Antiseptics in Obstetric Nursing. By JOHN SHAW, M.D. (Lond.), Obstetric Physician, North-West London Hospital. London: H. K. Lewis, Gower Street. 1890.

THE higher education of nurses is indeed advancing by leaps and bounds. The present volume deals exhaustively with a portion only of a special subject, namely, the use of antiseptics in midwifery and gynæcology. That it is a subject of the utmost importance has been made abundantly evident by the course of events during the last few years. As the author says, "The two great revolutionary and epoch-making forces of modern medicine, anæsthetics and antiseptics, have in no branch of the healing art exercised a greater influence than in obstetrics and gynæcology." It is equally true that, when aseptic methods are required, very much of the success of the physician or surgeon must to no small degree depend on the

way in which treatment is carried out by the nurse. In the present treatise the first four chapters are devoted to the history and principles of antiseptics, and include a somewhat pathetic sketch of Semmelweiss, the young Viennese professor, to whom belongs the honour of having introduced the use of antiseptics into midwifery practice. In the preface, and in other parts of the book, his uame is coupled with that of Sir Joseph Lister. The publishing and editing are alike good. There is a chromo-lithograph of various cultivations in nutrient media, besides other illustrations; a good index; and several appendices. This book might well have been written for junior practitioners, and can be recommended to them as a concise statement of the present position of affairs in this important branch of their work. Everyone knows what antiseptics have done in reducing the mortality of the lying-in hospitals. Queen Charlotte's, for instance, has been closed from time to time in consequence of the high average of deaths, reaching as far as forty-eight per thousand. During the last two years, that is to say, since the introduction of antiseptics—the average has been pulled down to a tenth of that of the previous thirty years. The author's plan of flushing out the eyes of new-born children with a solution of boracic acid is worthy of note as a simple and painless method of prophyllaxis, while it is said to be quite as effectual as corrosive sublimate, or other more irritating solutions. Antiseptic treatment of the severed navel is another modern point. This book may be recommended to all interested in the practical aspects of midwifery work.

Lectures on General Pathology. By JULIUS COHNHEIM. Vol. III. Translated from the second German edition by ALEXANDER B. MCKEE, M.B. London: The New Sydenham Society. 1890.

THE present volume of this well-known work contains the Pathology of Digestion, of Respiration, of the Urinary Organs, and of Animal Heat. In the previous volumes the author dealt fully with the alterations which various pathological processes produce in the constitution of the different apparatus of the human body. The functional disturbances to which the same apparatus are liable, under morbid conditions, are here considered. All the phases of digestion, respiration, etc., are analysed in a systematic manner, the normal physiological processes forming the standpoints from which the derangements in the different processes are viewed.

In considering the pathology of digestion, the author takes each division of the alimentary canal in succession. The first chapter is devoted to the mouth, pharynx, and œsophagus. Then follow chapters on the stomach, liver, pancreas, and intestines. The pathology of respiration is considered first in relation to abnormal conditions of the air-passages, next, as depending upon irregularities of the apparatus carrying out the respiratory movements, and, finally, as the result of irregularities of the pulmonary circulation. A special chapter is devoted to a general consideration of dyspnœa and asphyxia. Urinary pathology is very fully dealt with. The author discusses in successive chapters how the secretion of urine is affected by morbid conditions of the blood, by abnormal behaviour of the blood-stream, by lesions of the glomeruli and renal epithelium, and, lastly, by the presence of morbid impediments in the urinary passages. A chapter is devoted to the constitutional effects of disturbances of the urinary organs. The pathology of animal heat is treated in two chapters, one on the regulation of animal heat, the other on fever.

As a thoughtful, well-reasoned, and lucid exposition of the fundamental doctrines of pathology, Cohnheim's lectures are not surpassed by any other work of the same compass. Dr. McKee has done his work as translator excellently well.

A Practical Guide to Meat Inspection. By THOS. WALLEY, M.R.C.V.S., Principal of the Edinburgh Royal (Dick's) Veterinary College; Professor of Veterinary Medicine and Surgery.

THIS little book of 200 pages may lay claim to supplying a long-felt want, not only by medical officers of health, but also by the large army of useful public servants termed sanitary inspectors. To the latter class of men it will be particularly useful, as it is illustrated with well-drawn, but perhaps too highly coloured illustrations. In its pages will be found some very practical remarks upon the rules to be observed in the inspection of meat, which, though short, are very much to the point, so much so that we wish more space could have been spared. Two of the practical questions of the day are fairly discussed —viz., the use of horse-flesh for the food of man, which our author does not object to, when of good quality, and the purchaser knows what he is buying, as is now provided for by Knowles' Act, and in the second place the use as food of flesh of animals affected with micro-parasitic diseases. Mr. Walley gives a *résumé* of the present knowledge upon the question of the flesh of tuberculous animals being used as food, concluding with the resolution of the International Congress held at Paris in 1889:—"There is reason to prevent the consumption by man or animals of tubercular animals—mammals or birds—whatever the degree of tuberculosis, or whatever the apparent quality of the meat." Mr. Walley considers that veterinary surgeons are "the proper consultors" as to the condition of flesh for food. We must dissent from this opinion, in England, at any rate, until the status of veterinary surgeons appointed by the sanitary authorities is so improved that they are more independent of the butchers and farmers than is possible at the present time, when this class of men form their best clients. We welcome the book as a useful addition to sanitary literature, feeling assured that it will prove of great benefit to medical officers of health and sanitary inspectors; we only wish it were larger.

Revue des Sciences Médicales. (No. 73, Jan. 1891.)

RECORDS of scientific progress are ever being published, and in these days of numberless medical journals and well-equipped laboratories, the functions of such works are becoming yearly more important. None have time, and few would have inclination, to keep themselves even superficially informed of the progress made in all sections of our art, did this involve constant reference to original memoirs; it is the work of the quarterly or half-yearly Reviews to select and abbreviate those papers which are of the greatest interest and most importance, rejecting those of only doubtful interest. Let us consider how far the present attempt has been successful. And, first, we may observe that the information has been drawn from a fairly broad field, a good many German, Eng-

lish, and Italian papers receiving notice as well as those of French origin. The work does not, therefore, possess that unfortunate characteristic of being "too patriotic," so often observed in French literature. We find in the section on Physiology abstracts of the important papers by Schäfer and Mott on cortical visual areas, also references to Bradford's researches on the pulmonary vaso-motor system. Here we find, too, notice of Halliburton's work on the nature of fibrin-ferments. The section dealing with the relations between microbes and disease is especially worthy of notice, and the reader will be able to gather from it a very fair idea of the present position of the science. Papers on Phagocytosis and Immunity, by Metschnikoff and others, appear side by side with the more familiar ones devoted to the study of the chemical products of bacteria. Koch's original paper on the remedy for tubercle, now familiar to all, with others on the clinical results of the same,have also been noticed. Besides the foregoing, and other papers of similar character, there is a great number of abstracts dealing with questions of general interest in medicine and surgery. In these sections the Review supplies its readers with as good, perhaps a better, idea of the extent of modern progress than any similar work in our own language; it is impossible to even indicate all the good things to be found here. Pharmacologists will find information on the therapeutic action of aniline dyes, of aristol (the new rival of iodoform), on the hypodermic use of creasote, etc., in phthisis, and the latest reputed properties of a host of other drugs.

On the subject of Digestion there is an admirable *résumé* of the recent researches of MM. Hayem and Winter. These writers have endeavoured to give a true scientific significance to their work, and have studied the phenomena of digestion both under normal and pathological conditions. As this may be considered the "leading article" of the Review, it will be well to give the general results recorded. Dissatisfied, apparently, with the methods of their own countrymen and foreign workers, they set to work on entirely new lines. Their work is divided into two parts:—(1) The chemistry of normal digestion; (2) digestion in dyspepsia. By a method devised by M. Winter, and said to be very accurate, though complicated, the total quantity of chlorine, free and combined, is estimated. They next describe a method for estimating quantitatively the total acidity, and the amount of peptone formed, studying also the variations of the chlorinated elements during digestion. In studying the chemical processes in dyspepsia, he adopts the peculiar method of giving a standard meal, and then after an hour withdrawing it by œsophageal tube, and making an analysis of the resulting product. M. Hayem objects to the titles of "Hyperchlorhydrie, Anachlorhydrie" of G. Sée, preferring the division into "Hyperpepsia, simple Dyspepsia, and Hypopepsia." Such are the main features of their work, which is interesting; it is to be deplored, however, that the writer of the review in question did not devote more attention to the published results of other workers on the same subject. Both Germany and England have been able to throw considerable light on the subject of digestion, but this appears to have been unworthy the attention of the reviewer. However, the abstracts forming the body of the work are much more impartially selected, and this, with the copious bibliography at the end, is sufficient to render it of great service to the more serious worker, as well as to the much-pressed practitioner.

Transactions of the American Surgical Association. Vol. viii. Edited by Dr. J. Ewing. Philadelphia: Blakiston, Son & Co. 1891.

This handsome volume, full of instructive matter, begins with the President's Address on Pioneer Surgery in Kentucky, perhaps, to the outsider, the most interesting paper in the book. The first original surgical work in Kentucky was a (successful) amputation at the hip-joint, by Dr. Walter Brashear, in 1806. He first amputated the thigh in the middle third, tying all vessels, then by a long, external incision the rest of the femur was exposed and disarticulated. This method is now known as the Furneaux-Jordan method, and "remains the simplest, the least dangerous, the best," in Dr. Yandell's words. The first amputation of the thigh was by Kerr, of Northampton, in 1774; the first for shot-wounds by Larrey, in 1793; Brashear did not know of these. In 1809, the second piece of original surgical work in Kentucky was by Ephraim McDowell, who made the renowned operation for ovarian tumour, and in doing it "became a prime factor in the life of woman, in the life of the human race." Strange to say, that he kept no note of the operation, and prepared no account of it till 1817, when a meagre paper was published in the *Eclectic Repertory*. In 1813, Ch. McCreary accomplished the first complete extirpation of the clavicle ever done. This was in Hartford, Kentucky, and the patient made a complete recovery. Sixteen years afterwards, Prof. Mott repeated this operation, and claimed to be the first in the field. He took nearly four hours to do it, and tied over forty vessels. The patient recovered, but the autopsy, many years later, showed that extirpation had not been quite complete. McCreary's previous case is described in the *New Orleans Medical and Surgical Journal* for January, 1850.

Dr. Dudley, in 1817, added the medical department to the Transylvania University, but it gave rise to a duel with Dr. Richardson, who left the field with a pistol-wound in his thigh, which made him halt for the rest of his life. Like Abernethy, Dudley believed in the constitutional origin of diseases, but followed the blue pill at night, with an emetic in the morning. "Between the puke and the purge," his patient was fed on stale bread, skim-milk, and water-gruel. He was one of the first to abandon blood-letting. Dudley was the leader of American lithotomists, with 225 operations, including an unbroken series of 100 successful cases. He used the gorget in all. He also trephined in epilepsy in six cases, of which four were cured, and the other two were lost sight of. These men lived in places on the outskirts of civilization, and their memory deserves to be held in high honour.

The papers that follow do not lack interest. Prof. Conner writes on the surgical treatment of tumours of the bladder, with a table of all published cases; Prof. Stephen Smith on the treatment of fractures of the shaft of the femur (a committee has been appointed to settle what results ought to be considered satisfactory); Prof. Nanorde and Dr. Heneage Gibbes, on a rare form of epithelioma of the hand, in which Mr. Jonathan Hutchinson's views on arsenical keratosis are sceptically considered; Mr. Morton on Club-foot—fifteen excisions of the astragalus were made for congenital equino-varus in ten patients, with the most gratifying results so far; Prof. Ball gives the results of 154 operations for radical cure of hernia, and, after carefully following the after-histories of the different methods of operation, concludes that "there

is no prospect of attaining a radical cure of any form of hernia," but that operation is advisable, "because the majority of patients are in better condition than before," especially in irreducible cases. Prof. Bull simply excises the sac after ligature, and gives up complicated suturing, after a long trial. Dr. Mastin gives a case of lumbar hernia, and a list of cases hitherto recorded. Dr. Dennis contributes a paper on "The propriety of removing the appendix vermiformis during the intervals of recurrent attacks of appendicitis." At the recent International Medical Congress many speakers considered that the influence of the appendix had been overrated. Prof. Ransohoff treats of rupture of the middle meningeal artery without fracture. Prof. Keen, of Philadelphia, gives a synopsis of 134 operations for nephrorrhaphy in mobile kidney. "The mortality of the operation, therefore, *per se*, is at worst only two or three per cent., which renders it one of the least dangerous operations of surgery." Nephrectomy gives twenty-five or thirty per cent. Amongst the remaining papers is one by Dr. R. Abbe, of New York, on "Paranephric cysts" (two cases).

Patents.

[*This list is specially compiled for the* London Medical Recorder by Messrs. Rayner & Cassell, *Patent Agents, of* 37, *Chancery Lane, London, E.C.*]

642. Improvements in kettles, specially applicable to bronchitis or steam kettles. Ed. Henriques Robson, 55, Chancery Lane, London, January 13th.

717. A new or improved combination of ingredients, compound, or medicine, to be used externally or internally as a cure for or alleviation of rheumatism, neuralgia, gout, cancer, leprosy, consumption, and spasmodic pains, the same being applicable for other purposes. Christian Rheinlander, 33, Whitehead's Grove, Chelsea, London, January 14th.

768. Improvements in dental engines. Parsons Shaw, 53, Arcade Chambers, St. Mary's Gate, Manchester, January 15th.

928. Improvements in scissors, shears, surgical instruments, and the like, and in the manufacture thereof. Wm. Hy. Marsden Neave, Bank Buildings, George Street, Sheffield, January 19th.

1,146. Improvements appertaining to feeding bottles for babies. Thomas Quinlan, 6, Lord Street, Liverpool, January 22nd.

1,399. Improvements in safeguards for bottles containing poison, and in (safeguard) cases for the same. Geo. Lester Rands, 26, Trinity Street, Borough, London, January 26th.

1,511. Improvements in suspenders for infants' feeding bottles. Ed. Humfrey Lewis, 11, Furnival Street, London, January 27th.

1,861. An improved instrument for taking measurements on the human body. Alex. Edward, 70, Wellington Street, Glasgow, February 2nd.

1,949. A medical and embalming compound. James R. Bate, 143, Shacklewell Lane, London, February 3rd.

Specifications Published.

3,874. Williams. Abdominal belt. 1890. 6d.
16,484. Lucas. Artificial hands. 1890. 8d.
1,059. Tribe. Ointment for burns, &c. 1890. 4d.
15,194. Phillips. Taking pills. 1890. 6d.
20,168. Lazarus. Spectacle, &c., frames. 1890. 6d.

The above specifications may be had of Messrs. Rayner & Cassell, Patent Agents, 37, Chancery Lane, London, W.C., at the prices quoted.

[Should any of our readers desire to take out patents for inventions, either English or Foreign, and require advice upon the subject, the "Patent" Editor will be pleased to give them the benefit of his knowledge and experience. Communications addressed to the "Patent" Editor, *Medical Recorder*, 13, Waterloo Place, Regent St., S.W., will receive prompt attention.]

Miscellany.

A "Gull" studentship in pathology, of the yearly value of £125, with a further allowance of £25 for apparatus, has been founded by Sir William Cameron Gull at the Medical School of Guy's Hospital, with which his father was so long and honourably connected.

The Coroner for Manchester has found it necessary to protest against the prevalence of the unqualified assistant in that city. He says that he has knowledge of one practitioner who "runs" no less than sixteen branch establishments, in each of which he maintains an unqualified assistant.

Tubes for Koch's Fluid. — A glass-works at Doeber has just been engaged in executing an order for 1,000,000 tubes, intended to serve for the distribution of Koch's lymph. The capacity of the tubes is 5 c.m., and they are closed by means of a glass stopper. The tubes have been made of glass of a specially good quality, and are said to have answered all the required tests.

Dr. Thomas Rhodes Armitage, the well-known benefactor of the blind, has just died at Cashel, co. Tipperary, leaving after him nearly a quarter of a million of money. It is not known whether he has devoted any part of this large fortune to the objects to which his life was devoted. Mr. Hulke, the well-known ophthalmic surgeon of London, is one of the executors to the will.

The Estimation of Boracic Acid in Milk.— One hundred grammes of milk to be made alkaline with soda and evaporated to dryness. The residue is ignited and distilled with acetic acid and methyl alcohol, and the distillate collected on a weighed quantity of lime contained in a platinum capsule. After treatment with methyl alcohol about ten times in this way, all the boracic acid is volatilised. The distillate is evaporated, the residue incinerated and weighed. The weight gives the proportion of boracic acid.

Aid to Injured Horses.—The Council of the Animals' Institute are appealing for funds to enable them to carry out their scheme of rendering aid to injured horses in the London streets. It is proposed to have ambulance carriages in available places, fully equipped with necessary appliances. The honorary treasurers, to whom subscriptions and donations should be sent, are Lady Florence Pelham Clinton and Lady Frances Trevanion.

Railway Sanitation. — An ordinance has been passed in Indiana which compels all railroad companies to put storm-doors on all railroad-coaches and street-cars for the carriage of passengers, to keep the temperature from sixty-eight to seventy in the cars, and to furnish spittoons partly filled with a solution of bichloride of mercury, for the use of persons suffering from chronic cough and expectoration.

Medical Teaching in Portugal.—A new medical school, on a scale of equipment adapted to the needs of modern medical education, is about to be erected in Lisbon, at an estimated cost of 400 contos of reis. It has also been decided to make better provision for clinical teaching by the establishment in the Portuguese capital of a "Policlinic," somewhat on the model of the new Policlinico Umberto I., at Rome.

Dr. von Reinecker, Professor of Psychiatry, in the University of Wuzburg, has given a sum of money to that institution for the foundation of a prize of the value of 10,000 marks, with a gold or silver medal. This prize will be awarded every three years to the author of the most important discovery during the previous three years. Dr. Koch has been awarded the first prize.

A Model Hygienic Laboratory.—A sum of fifty thousand dollars has been given by Mr. Henry C. Lea, of Philadelphia, to the University of Pennsylvania, for the erection of a hygienic laboratory, the plans for which have been revised and approved by Dr. John S. Billings. It will be provided with lecture rooms, museums, bacteriological and photographic rooms, crematory, and a separate building for the animals used in experiments. It will, it is thought, be altogether the finest thing of the kind that has yet been established.

Suicides of School Children in Germany.—During the last eight years, 289 school children committed suicide in Germany; of these, 49 were girls. The causes assigned were, fear of punishment, 80; mental disease, 26; morbid ambition, 19; fear of examination, 16; practical joking, 7; disappointed love, 5. In view of the severe educational *régime* which obtains in the Fatherland, this record scarcely comes as a surprise. It is a terrible indictment against "over-pressure," the effects of which can scarcely be expected to be limited to those hapless children who are driven to destroy themselves.

Remedy for Perspiring Feet.—Dr. Winogradoff recommends a five to eight per cent. solution of chloride of zinc as an application for the prevention of undue perspiration of the feet. He begins by ordering the feet to be well washed in tepid water, and then dabs on the solution, wiping off the surplus a few minutes later. The application is best made at night, and may require to be repeated a week later. It acts as a caustic, destroying the sudoriparous glands, and should never be used except by the medical man himself.

The Ideal Malthusian Marriage. —It is stated by Dr. Keppler, of Venice, that spaying for salpingitis and other inflammatory affections in young women does not produce any diminution of the sexual appetite, but that, notwithstanding certain changes in the genital organs that remain, these women can marry and live happily with their husbands. Indeed, he suggests that marriage with a spayed woman is the ideal of a Malthusian marriage, as a happy married life without conception and without any danger to health can be obtained. Very different is the result of spaying in middle-aged women with fibromata, for it entirely destroys all traces of sexual instincts.

Pasteur and Koch.—Dr. G. Alphandery, says the *Chemist and Druggist*, is responsible for the following anecdote:—At the Geneva Medical Council in 1882, Pasteur gave a summary description of his process for attenuating viruses. A German physician, also a member of the Congress, took occasion to find fault with the French scientist for not giving a more explicit account of his method, hinting there was some voluntary reticence to keep the process a secret. And now it turns out that the fault-finder on that occasion was no other than Dr. Koch himself.

A well-known local practitioner, Dr. Lumblay, of Windsor Mills, Quebec, recently took an ounce of aconite in the dark in mistake for some cough syrup. Having failed by the use of emetics to counteract the poisonous effects, he drove to the residence of Dr. Mayher, where all efforts, extending over some hours, also proved ineffectual. Dr. Lumblay was then informed that the effects would prove fatal. He sent for a priest, and made confession. He then made and signed his will, and having driven home, died at midnight in terrible agony. Throughout the entire time Dr. Lumblay was quite calm, preserving consciousness until the end.

Special Instruction for the Feeble-minded and Deformed.—A special committee of the Charity Organization Society has been appointed to carry on an investigation among fifty thousand children in various schools, in view of a recommendation emanating from the Royal Commision on the Blind, Deaf and Dumb, &c., that special instruction should be provided for the feeble and exceptional children, such as those with criminal tendency, the cripple, epileptic, &c. The means for carrying out this recommendation is now under the consideration of the London School Board, and a public appeal has been made for funds.

The Mattisson Prize.—Dr. J. B. Mattisson, of Brooklyn, offers a prize of four hundred dollars for the best paper on "Opium Addiction as Related to Renal Disease," based upon the queries:—Will the habitual use of opium, in any form, produce organic renal disease? If so, what lesion is most likely? What is the rationale? The contest is to be open for two years from December 1, 1890, to either sex, and to any school or language. The prize-paper is to belong to the American Association for the Cure of Inebriety. All papers are to be in possession of the Chairman of Award Committee on or before January 1, 1893.

The Midwives' Bill.—The sub-committee appointed by the Parliamentary Bills Committee of the British Medical Association to consider in detail the clauses of the Midwives Registration Bill have, we understand, made some important modifications in, and additions to, the present Bill. The Obstetrical Society have passed a resolution approving of the Bill. There is, however, considerable oppositson to the Bill in several quarters. A deputation from the Royal College of Surgeons of Ireland, and the Royal University, Dublin, waited upon the President of the Privy Council on Friday, February 13, to protest against the Bill,

The Professor of St. Petersburg Medical Academy, Dr. Dmitry Iwanotisch Koschlakoff, is dead.

Physical Education in Elementary Schools.—The Earl of Meath has introduced in the House of Lords a Bill for the promotion of physical education in elementary schools. It proposes to impose on the school authority for every elementary school, in any populous town, the duty of making fit and proper provision, to the satisfaction of the inspector, for the instruction and practice of all scholars of both sexes in physical education and exercises connected therewith. The towns to which the Bill applies comprise the County of London, and all such boroughs and urban sanitary districts as have a population exceeding 15,000.

Professor Virchow's Testimonial Fund.—Professor Rudolf Virchow, who celebrates on Oct. 13 of the present year, his seventieth birthday, is to be presented by his admiring friends with a large gold portrait medal, and bronze replicas of the same to members of his family and to some scientific institutions. It is anticipated that there will be a large surplus from the fund which has been started for the purpose, which will be handed over to Professor Virchow for the furtherance, subject to his decision, of scientific work. Sir James Paget is the Chairman of the Fund, Dr. Lauder Brunton, Hon-Treasurer, and the Hon.-Secretaries are Dr. Felix Semon and Professor Victor Horsley, with a highly representative Committee.

The Rights of an Unborn Infant.—One of the most curious questions that has ever come before a court of justice was that of "Walker *v.* Great Northern Railway," which recently occupied the attention of the Queen's Bench Divison, Dublin. The plaintiff was a passenger in an excursion train that was wrecked last year at Armagh, and was *enceinte*, the child being born deformed. She alleges that the child which she was carrying at the time of the accident was injured, and as a result was born deformed. The railway company, by counsel, demurred, alleging that an unborn child had no right of action or interest to recover damages for personal injuries. The plaintiff's case was lost, the demurrer being allowed. It may be mentioned that a sum of £800 had already been given to the mother by the company, as compensation for injuries received by her.

Women as Pharmacists.—There are a hundred women pharmacists in New York, but, strange to say, not one of these is in business on her own account. They have charge of the dispensaries connected with convents, asylums, hospitals, homes, and charitable institutions. They are capable, skilful, and progressive; but the reason why they are not found in drug-stores is that they would kill the business, unless chained to the prescription counter and kept out of sight. This is American opinion, not our statement. One of our contemporaries out there says the lady pharmacist "can always find a position in out-of-town places, and is in demand every time a new hospital is built or an annexe opened in connection with an old asylum. But in the retail drug business she is debarred—a tribute that the world pays to her sex."

The Population in France. — In the Paris Academy of Medicine, the discussions on the diminishing population in France are continued. Special stress is justly laid on the loss of life caused by small-pox. At the last sitting, Prof. Proust, by the aid of comprehensive statistics, pointed out the advantage Germany has acquired from the vaccination and re-vaccination laws there in force. In 1887, *e.g.*, the total mortality for small-pox in all Germany was 168, while in Paris alone it was 382. In Alsace, since the annexation to Germany, the mortality (per 100,000 ?) has fallen from 2·14 to 0·22. Especially instructive is the example of Zurich, where, by popular vote, compulsory vaccination was done away with in 1883. The number of deaths was, in 1881, 7 ; in 1882, 3 ; in 1883, 8 ; in 1885, 52 ; in 1886, 85 (!). Since 1886, a severe epidemic, especially fatal among the un-vaccinated children, has raged. The desire of France for such a system of vaccination as prevails in Germany will possibly ere long be satisfied.

A Pathological Language.—A patient is now to be seen in London who has a defect in his speech of a most singular character. The patient, a lad aged ten, and English by birth, is unable to speak his native language, but articulates a jargon which cannot be understood. He was examined by many doctors, none of whom could decide whether he spoke the same thing twice in the same way or not. The assistance of the phonograph was called in, and the lad, in the presence of several gentlemen, was asked to speak the Lord's Prayer and the alphabet. When a comparison was instituted between the various cylinders containing the record, it was found that there was no variation in the spoken words, and that it was quite possible for the language which the boy speaks to be understood by simply learning the various sounds.

A curious case came before the New York City Court last week, with a still more than curious termination. A gentleman discharged a wet-nurse because she went out at night, and, on this and other grounds, was not satisfactory to him. The nurse brought suit for breach of contract, and asserted that as long as she supplied the infant with good milk, the father had no right to dismiss her. A pair of healthy-looking twins were produced in court as evidence of the superior lactogenetic capacity of the wet-nurse, whatever might be the irregularity of her habits or the delinquencies of her morals. The jury rendered a verdict for the plaintiff, and awarded her the full amount of her salary according to her alleged contract. This may he good law, but it is not good sense, and the decision will certainly discourage the employment of wet-nurses, already a notoriously uncomfortable addition to the family circle. A bottle is much more amenable to reason, and is far less expensive.

Hasty Medical Legislation. — A medical law has been passed by the new State of Washington, which in the short space of six months has already developed curiosities. A law was passed that all persons before practising medicine should be examined and licensed by a State board, appointed by the Governor. The Governor appointed on the board four regular practitioners, three homœopaths, a "physio-medic," and an eclectic. It is difficult to learn what a "physio-medic" is. The irregulars combined, elected their candidate president of the board, and placed such other members as they pleased in office. The board adopted rules to the effect that a general average of sixty-five must be made by all but old graduates (of at least five years' standing), who need not average as high in chemistry, physiology, or anatomy as graduates of less than five years' standing.

Each member of the board was given subjects on which to prepare questions in writing. Some of these questions have gone the rounds of the medical press as jokes; as, for instance, one asked by the eclectic, "What is the effect of too much red blood-corpuscles in the blood?"—*Boston Medical and Surgical Journal*

Vital Statistics of American Jews.—The last census contains a study of the vital statistics of the Jews resident in this country. The inquiry resulted in the return of 10,618 completed family schedules, embracing 60,630 living persons; in these families there had been 2,148 marriages, 6,038 births, and 2,062 deaths during five years. The deaths reported for the five years give an average annual death-rate of 7·11 per 1,000 of population, being about half of the average rate for the general population. The expectation of life at the age of ten years, based upon the death-rate for the year of 1889, is 61·11, and 56·02 years for males and females, respectively, as against 49·99 and 48·05 as calculated by life insurance companies for the general population of this country. Contrasting the birth and death-rates for those of native-born and foreign-born parents, indicates that the birth-rate is decreasing and the death-rate increasing with more prolonged residence in this country; but the general results indicate that the Jews here retain many of the peculiarities which have been noted among them in Europe.

The Involuntary Accomplice.—A very good story is told of the celebrated alienist, Legrand du Saulle. A fashionably-dressed lady called on a Palais Royal jeweller, and having selected a bracelet of considerable value, requested the tradesman to send along with her an employé in order that she might show the bracelet to her husband and obtain his approval and the money to pay for it. This seeming fair enough, her demand was complied with, and the pair adjourned—to the house of Legrand du Saulle. She went into the doctor's consulting-room under the pretext of showing her husband the bracelet, leaving the employé in the waiting-room. When there she told the doctor that she had with her a young nephew of hers who had a singular monomania, that of believing himself to have been robbed of a valuable bracelet, and she asked the doctor to examine him in another room and report to her thereon. She thereupon left the room in order that the "patient" might be introduced. On entering the room the suspicions of the young man were aroused by the absence of the lady with the diamonds, and he at once insisted upon having either the diamonds or the money. This, of course, was only what Du Saulle expected, and it was some time, and only after a very complicated disentanglement, that Du Saulle began to understand that he had been cleanly duped into acting the part of an accomplice. By that time, alas! the robber had made good her escape.

Treatment of Patients in Vienna.—The Vienna correspondent of the *New York Medical Record* observes:—"Probably one of the earliest impressions made upon an American at Vienna is the indifference, carelessness, and even cruelty with which patients are often treated, and this is true of Germany, as well as Austria. One sees painful operations done without anæsthesia, when the operator is pressed for time; he sees patients stripped, and then covered simply with towels wet in antiseptic solutions, and exposed to deadly chill during long operations in cold amphitheatres—the patient being often required to leave the room afterwards wet and naked. He sees women submit to vaginal examinations by a class of nine or ten students, her expressions of suffering being often repressed with great roughness; he sees pregnant women, and women already in labour, chloroformed, and measured, palpated, and examined, inside and out, by classes similarly large, the narcosis terminating with the curiosity of the students It is often a cause of wonder that so many patients live to establish the reputations of German and Austrian operators, and the question often arises among the American spectators whether hospital patients here are not tougher than with us. There is also often a lack of delicacy, not to say decency, in the conduct of hospital work. For instance, it takes the stranger from abroad quite aback to see the male patients of the skin and venereal clinics ushered entirely naked into the presence of the professor by a woman; and dressings and applications, even urethral injections, made by the same unblushing female. But these matters soon lose their early novelty, or are swallowed up in the interest which the great opportunities for observation excite.

Clinical Models.—For some time there has been a growing want felt for models, to enable our medical museums to hold their own with those on the Continent, more especially with that of the Hôpital St. Louis, in Paris, which, though a comparatively poor institution, puts many of the richer establishments in this country in the shade, by its life-like record of clinical facts in the shape of wax-models. With the exception of the models at Guy's Hospital, by Mr. Toune, and a few at the University College Museum, by Mr. Tuson, London museums are absolutely destitute of original works in this department, in spite of the abundance of material available in the metroplitan hospitals. The student is thus deprived of one of the best means of educating his powers of observation, and is placed at a decided disadvantage. At the instance of many leading surgeons and physicians, Messrs. Ballière, Tindall & Co. have lately added to their London house a studio for the production of clinical and pathological models, under the direction of a well-known draughtsman and art-modeller, Mr. W. Swainson, and a competent staff. It is satisfactory to note that the Council of the Royal College of Surgeons have already availed themselves of the opportunity to procure models. It is reassuring to find that the College is alive to the importance of adding original works of this kind to their collection, instead of remaining satisfied with replicas from the works of M. Baretta. The models acquired by the College are from subjects supplied by Sir James Paget, Mr. Hutchinson, Mr. Thomas Smith, Dr. T. Colcott Fox, and others; and, as the subjects are of very great clinical interest, they will fully repay a careful examination. It is to be hoped that other museums connected with all our medical teaching bodies will at once follow the example set by the College, in order that collections may gradually be formed which will compare favourably with any abroad.

The London
Medical Recorder.

THE ORIGIN OF DIPHTHERIA.*

THE author gives in this paper a review of the more important observations made on the bacillus of diphtheritic membrane, first seen by Klebs in 1883. and afterwards more exactly worked out by himself. This is especially characterised by a granular appearance and club-like swelling of the ends, by luxuriant growth in the specially prepared blood-serum at the temperature of incubation. After inoculation of the pure culture in animals, he found the bacillus always only at the spot of infection, and not in the deeper organs; after placing the culture material in the trachæ of dogs, guinea-pigs, hens or doves, dense pseudo-membranes formed, and after subcutaneous injection (guinea-pigs) a greyish-white exudation is found at the place of infection; most of the infected animals died. A large number of observers have confirmed the existence of the bacillus described by the author as possessing these peculiarities, and recognised in it the cause of diphtheria. The author has himself, in the last few years, observed his bacillus by cultures in 21 cases of diphtheria. Flugge states, in his handbook, "Die Mikroorganismen," that Dr. Wyssokowitsch has bred the bacillus from diphtheritic membrane. Cornil and Babes speak in their text-book of numerous successful cultures. Babes (*Zts. f. Hyg.*, Bd. 5, p. 177), in Bukarest, found the bacillus in each of 42 cases; v. Hoffmann-Wellenhof (*Wien. Med. Woch.*, 1888, No. 3 u. 4) in 6 out of 9 cases; Ortmann (*Berl. klin. Woch.*, 1889, No. 10, p. 218) in 15 out of 16; Roux and Yersin (*Ann. de l'Inst. Pasteur*, 1888, No. 12) in each of 15 cases; Sörensen (*Nord. Med. Ark.*, 1886, Bd. 18, No. 25) in 7 out of 10; d'Espine (*Rev. méd. de la Suisse rom.*, 1888, No. 1, p. 49) in each of 14 cases; Kolisko and Paltauf (*Wien. klin. Woch.*, 1889, No. 8) without an exception in 50 cases, of which one was of diphtheria of the conjunctiva; Zarniko (*Centr. f. Bakter.*, Bd. 6, p. 153, 177, 224) in 18 out of 20 cases; Beck in each of 18 cases; Escherich (*Centr. f. Bakter.* 1890, No. 1) in 21 out of 22. In the five last-mentioned observations the authors expressly state that in a greater or lesser number of cases of non-diphtheritic angina (simple catarrh, measles, and the necrotic angina of scarlet fever), and in the healthy mucous membrane of the mouth and pharynx, the bacillus was constantly absent. Microscopic examination alone is to be used with great reserve in the diagnosis of diphtheritic bacilli; v. Hoffmann has sometimes determined in diphtheritic membrane, sometimes in the healthy mucous membrane of the pharynx, or in cases of simple catarrh, some (pseudodiphtheritic) bacilli, which were morphologically similar to diphtheritic bacilli, but which behaved differently in most respects when cultivated, and were not pathogenic to guinea-pigs. Apparently all these rods characterised by granular appearance and club-shaped swelling of the ends are nearly related members of the same family, to which also belong the Xerosebacilli, and the rods cultivated by Babes in trachoma. Further, v. Hoffmann and Babes have several times obtained from healthy, catarrhal, or ulcerated or pharyngeal mucous membrane bacilli, which in pure culture and pathogenic results, as well as in morphological appearances, were almost exactly similar to the diphtheria bacillus, and the author himself has obtained from the mouth of a healthy child rods in no way to be distinguished from his diphtheritic ones. In the author's opinion these isolated instances are no conclusive argument against the specific nature of his bacillus, since it may quite well be found occasionally in the situation where it is accustomed to exercise its pathogenic action without or before taking on such action. In any case, in face of the different pseudodiphtheritic bacilli, in order to arrive at a sure differential diagnosis of the true Loeffler's bacillus, it is recommended that all the characteristics given by the author should be carefully determined, since any constantly observed deviation, however slight, makes against its diphtheritic nature. The single observation which induces the author to look upon his bacillus as only with the greatest probability, and not with absolute certainty, the cause of diphtheria, is a research carried out with the assistance of the latest bacteriological knowledge, by P. Mitchell Prudden (*Amer. Journ. of the Med. Sci.*, May, 1889), who, in 24 cases of diphtheria amongst children, was never able to find the rods, though in 22 he found in the membrane, and sometimes also in the intestines, a streptococcus, which he, on that account, regards as the cause of the diphtheria. This observation, which differs so much from those made in Europe, requires further investigation.

In a clinical connection, some new and interesting agreements between the course of the human diphtheria and that induced in animals by infection have been recorded; the author has, in a guinea-pig which had been inoculated, seen some time later pronounced paralysis of the hinder section of the body, which paralysis disappeared again in the course of three weeks; in a second animal the same occurrence followed, but in a lesser degree. Roux and Yersin have also observed several paralyses as consequences of infection in doves. Since in the infected animals the gravely altered internal organs never contain bacilli, or at least none have ever been found in them, the author concludes that the general effect is produced by a poison formed by the bacillus at the place of inoculation, a kind of enzyme. He extracted a several days'-old pure culture with glycerine, precipitated it with alcohol, and injected guinea-pigs with the precipitate dissolved in water (O. 1—0·2 g.). At the place of injection there formed firm fibrinous granulations with œdema and hæmorrhages in the neighbourhood, and hyperæmia of the internal organs. Injection into the abdominal cavity caused death with the appearances of severe peritonitis. Roux and Yersin obtained the same results with a bacillus-free nutritive medium of a pure culture filtered through porcelain, as also with the filtered urine and extracts from the organs of diphtheritic patients. In their investigations they also observed paralytic symptoms. In the same manner as the French investigators, but independently of them, Kolisko and Paltauf have obtained the diphtheritic poison separate from the bacillus. As to the duration of life of the diphtheritic bacillus external to the body, there are several observations, the longest existence having been observed by v. Hoffmann (five months). As to climatic conditions, a statistical research of Bruhl and Jahr, on diphtheria and croup in the kingdom of Prussia, endeavours to discover those which favour its occurrence; perhaps

* By F. LOEFFLER. (*Deutsch. Med. Wochensch.* No. 5 u. 6, 1890.)

rapid changes in the temperature and decrease in the moisture of the air, which cause sudden alteration in the giving off of fluid, are predisposing causes.

THE ROUTE OF THE RESPIRED AIR THROUGH THE NOSE.*

THE question of the direction and course followed by the stream of air through the nose in respiration, especially in inspiration, was first experimentally investigated by E. Paulsen (1882). The subject had been previously discussed by Bidder, H. Meyer, Zuckerkandl, and others, chiefly from anatomical considerations. In accordance with their views, it was generally held that in ordinary inspiration the air passed principally through the inferior and middle channels of the nose, especially through the inferior, as this was the shortest route to the naso-pharynx. Paulsen's experiments were made on the cadaver. He began by placing pieces of litmus paper in the nasal cavities, and drawing air laden with ammonia through them. Subsequently he adopted the method of drawing air laden with osmic acid through the nose. Both methods yielded essentially similar results. "In inspiration, the bulk of the air takes an upward course, rises to the bridge of the nose, passes along the roof of the nasal cavities until it reaches the posterior portion when it again descends along a curved route." The lower nasal passage is not touched by the air, and the inferior border of the stream of air reaches no lower at any point than the middle of the inferior turbinate body.

The chief objection to Paulsen's experiments was that they were made upon the cadaver. Kayser, by employing a very simple method, was able to test the result on the living subject. This method consisted in inspiring air laden with finely-powdered magnesia, and observing the seat of the deposit of this powder within the nose. A small sieve filled with the powder was held in the neighbourhood of the nose. A cloud of magnesia-dust was produced by gently tapping on the sieve, while the person experimented upon gently inspired. Then the nasal cavities were illuminated and examined with a speculum. Kayser also performed these powder experiments on the cadaver, the dust being drawn through the nose by aspiration.

If the above powder experiment be tried on a fairly normal nose, in a living subject, rhinoscopy reveals the following picture:—A more or less dense layer of white powder is seen at the anterior extremity of the septum, about a centimètre and a half from the point of the nose, on a level with the middle or upper portion of the inferior turbinate body. Thence the white powder extends along the septum, describing a semi-circle from before backward. The anterior vertical border of the middle turbinate body is thickly covered, and the lateral walls of the middle passages are well covered. The lower border of the inferior turbinate body and the floor are quite free, while a few grains of powder are seen in the anterior extremity and upper surface of the inferior turbinate body. Posterior rhinoscopy shows some powder on the upper part of the posterior pharyngeal wall, but it is only with the production of very dense clouds of dust that the deposit of powder on the posterior wall of the pharynx extends to the lower part, opposite the inferior nasal passage. Kayser repeated Paulsen's experiments, with osmic acid, on the heads of cadavers, having previously performed the powder experiment on them, and he found that the powder-deposit corresponded to the parts which were stained most deeply with the osmic acid, except that the powder did not seem to extend so high as the osmic-acid stain, a result which is very easily comprehended. The conclusion justified by these experiments is that *during inspiration in the normal nose, the bulk of the air passes along the septum, above the inferior turbinate body, describing a semi-circle in its course, and extending upward nearly to the roof of the nose.* Kayser performed further experiments with a view of ascertaining the causes which determined the route of the air through the nose. He sawed away the inferior turbinate body in the cadaver, and then experimented with the powder. The result was the deposit of the powder in the same manner as before the removal. He also tried the powder experiment on subjects of atrophic rhinitis, in whom the inferior turbinate body was much wasted. The powder was deposited on the middle turbinate body and septum, in an arched manner, as under normal conditions. It is clear, therefore, that the inferior turbinate body has little or no influence in determining the course of the air. The direction and position of the anterior nares are, on the other hand, of the greatest importance in determining the direction of the current of air. If, in the living subject, a glass tube is introduced into one nostril so as to close it completely, and held there in a horizontal position, the experimental deposit of powder will not extend above the middle nasal passage. The same result is produced in a less complete manner when the tip of the nose of the person experimented upon is raised so that its anterior opening is perfectly vertical. But even in these cases the actual lower passage, that is the space between the floor and the lower turbinate body, remains free from deposit. The reason for this is that the inferior margin of the anterior nares is on a higher level than the floor of the nasal cavity, the floor having a greater or less concavity in an antero-posterior direction. The horizontal direction of the anterior nares and its position below the level of the floor of the nose have, therefore, the chief influence in directing the current of air.

The general impression that in quiet respiration the current of air passes through the respiratory region is therefore erroneous. The division of the cavity of the nose into a *pars respiratoria* and a *pars olfactoria*, is anatomically permissible, but not justifiable physiologically. It is commonly taught that during quiet respiration the current of air does not come into contact with the olfactory region, and it is puzzling to understand how, if such be the case, olfactory impressions are produced in quiet breathing. The mystery regarding the appreciation of odours during quiet breathing is, however, solved by the proof that, even in breathing of this sort, the air takes a curved route upwards towards the olfactory region.

If the direction of the current of air upward and backward be the normal one, then all changes in the interior of the nose which modify this direction must interfere with inspiration. On the other hand, all nasal changes which do not influence the normal direction of the current of air need have no restricting effect upon breathing. The inferior nasal passage may be very spacious, and yet there will be respiratory obstruction if the middle and upper passages become narrowed. The incoming air will first impinge upon the mass which fills its natural passage, and then

* By R. KAYSER. ("Archi. of Otology," January, 1891.)

be diverted through the inferior channel. On the other hand, the lower passages may be obstructed without producing any interference with respiration. This corresponds to clinical experience. Of course, if the inferior turbinate body is swollen to an extent to block up the middle passage and the entrance to the upper one, there will be difficulty of breathing. In practice, the estimation of these relations is rendered difficult by having to distinguish between actual objective obstruction and the subjective feeling of obstruction. The latter sensation always exists when parts of the nose which normally are apart come into contact.

Similarly, an obstruction to breathing in the posterior portion of the nose and naso-pharynx will result when access to the posterior nares is interfered with, corresponding to the middle and upper nasal passages. It is only when we consider their effects upon the natural direction of the current of air that the significance of adenoid vegetations becomes manifest. These growths are present in the upper part of the naso-pharynx, and hence obstruct breathing even before they have attained any great size. It often happens that the removal of large quantities of these vegetations does not relieve the impediment to breathing, if portions of even insignificant size have been left behind.

GLAUCOMA.*

THIS article is an historical review of the manner in which our present views on the pathology and treatment of this disease have been reached. It does not profess to contain original matter.

The older authors of the preceding century, and even Hippocrates, were familiar with glaucoma only in its latest stage, as a disease which produced blindness, a greenish colouration of the pupil, which was dilated, and a secondary cataract, which had a peculiar appearance. Boerhaave classed it as a form of cataract which began with pain, and ended with the loss of all perception of light. A hundred years later, namely, in 1830, attention was called to the hardness of the eyeball by Mackenzie, who said, "The eyeball always feels firmer than natural, while in cataract it presents its usual degree of resistance to the pressure of the finger." He adds later, "Paracentesis of the cornea or of the sclerotic affords great relief of pain. There is pain in the eye from the very commencement. It daily increases in violence, and spreads to the half of the head, the teeth and the neck. . . . When the finger is placed upon the eye it feels as hard as a pebble."

The paracentesis recommended by Mackenzie was practised by Desmarres in Paris, from 1848 to 1858, with temporary, but rarely with lasting, benefit. His conclusion was that "Glaucoma leads always, sooner or later, to loss of vision in the eye that it attacks, and it usually affects both eyes after a longer or shorter interval."

In 1851, Helmholtz, by the invention of the ophthalmoscope, led the way to a truer knowledge of the pathology of glaucoma. The lens and vitreous were found to be more transparent than had been supposed, and no extensive choroidal changes, such as had been theoretically supposed to exist, were discovered. The cupping of the optic disc was at first supposed to be an elevation, and it was attributed to an inflamed and swollen condition of the nerve, an error which was made by both Jaeger and by Graefe. Adolf Weber was the first to point out that the supposed elevation was really a depression, and Heinrich Müller soon followed with anatomical proof of this. A. v. Graefe discovered venous and arterial pulsation, and pointed out that the latter only occurred when there was increased intraocular tension. Donders and Coccius showed how it could be produced by artificially raising the tension by pressure of the finger.

Bowman indicated the method of estimating tension with the finger and recording it, and, although tonometers have been invented, Bowman's method and notation still holds its own.

Meanwhile Graefe continued his investigations into the pathology of glaucoma. He saw that overfilling of the eye was the essential feature of the disease, and not an accidental complication. He practised paracentesis, being unaware of the previous experiments of Mackenzie and Desmarres, and came to the same conclusion as to its uselessness as a permanent cure. Having found that staphylomatous eyes, which were moderately hard, became permanently softer after iridectomy, he determined to try this for glaucoma. His first operation was performed in June, 1856, with the brilliant result that is well known.

The cause of glaucoma, and mode in which iridectomy cured it, remained to be discovered. Graefe practised iridectomy for glaucoma for fifteen years, operating upon thousands of cases, but did not find the clue to its action. Shortly before his death he wrote, "The etiology of glaucoma remains enveloped in obscurity, notwithstanding the investigations of so many observers, and with regard to the theory of the operation, in spite of much trouble, it has not appreciably advanced." In 1877 Schweigger, the pupil of Graefe, wrote in the same strain.

In the twenty years that have elapsed since von Graefe's death, we have advanced a good deal. In the first place we have learnt that the ciliary processes form a great secretory organ for the eye, that the greater part of the fluid finds its way round the lens and through the pupil to the anterior chamber, and escapes by filtration into the venous plexus in Schlemm's canal. The outflow is regulated by the pressure of the fluid; thus Weber found that if the venæ vorticosæ were ligatured in a rabbit, although there was at first a rise of intraocular pressure, this was only transient, being compensated for soon by collateral circulation through other channels.

Pathological anatomy afforded also most important evidence. In 1858 H. Müller discovered that the periphery of the iris became adherent to the cornea. This had also been pointed out by Donders three years previously, but the importance of the fact was not appreciated till twenty-five years later, when attention was again drawn to it by Kneis and Adolt Weber. The latter emphasised the importance of the filtration angle by producing glaucoma experimentally by injecting oil into the anterior chamber. Knies attributed glaucoma to a primary inflammation occuring at the base of the iris; but why, it was asked, if the obstruction occurred here first, was there not increased depth of the anterior chamber? Weber's theory was more plausible, that the pushing forward of the iris was secondary to swelling of the ciliary processes.

The effect of drugs has not been without influence in solving the question. Graefe had pointed out the injurious effect that mydriatics produced in glaucoma.

* BY DR. H. SNELLEN. (*Klin. Monatsblatte. for Vugeheilkunde*, Jan. 1, 1891.)

Laqueur, in 1876, was the first to discover that myotics had the opposite effect. Further use of these has shown that, although they have their use, yet that their prolonged employment may do harm by the spasm of accommodation that they produce.

Priestley Smith has shown by experiment that the lens constantly increases in size, and he believes that a relatively large lens acts as a predisposing cause of glaucoma by limiting the available space between its edge and the ciliary processes, so that congestion of the latter may lead to its closure.

The accommodation has been blamed as the cause of glaucoma by Schön and C. E. Walker.

The author does not accept the explanations hitherto given of the mode in which overuse of the accommodation causes glaucoma, but he believes that it has such an effect, and he attributes it to the hardness of the lens preventing its change of shape; so that while the ciliary muscle contracts, the lens does not, as in the young subjects, become smaller in its equatorial diameter.

The beneficial effect of iridectomy was at first ascribed to the removal of a piece of iris, others have thought that the incision was the essential part of the operation,—hence the proposal to substitute sclerotomy; but as the iris often prolapses into the wound, its incision may be necessary on this ground; and sclerotomy, although useful in exceptional cases, is not likely to supplant iridectomy.

THE INNERVATION AND MECHANISM OF THE LARYNX.*

THE ordinarily accepted theory is that the recurrent laryngeal nerve is the motor nerve for all the laryngeal muscles except the cricothyroid; while the superior laryngeal nerve supplies motor fibres to one muscle only, viz., the cricothyroid, its other twigs being all sensory. But quite recently Exner has put forward a theory of double innervation, a theory founded on experiments on animals, according to which the superior laryngeal nerve takes part in the motor innervation of the glottis, especially of its closers. This would explain the striking fact that in paralysis of the recurrent nerves, instead of the cadaveric position of the vocal chords, we find closure to such a degree that the danger of suffocation may arise.

Pure clinical cases have a positive value in helping us to determine this question, and the author brings forward two.

Case I.—A man, aged thirty-five, was received in the hospital for hoarseness, which had come on gradually, with weakness and loss of appetite. On the back of the larynx was a white radiating cicatrix of syphilitic character, although syphilis was not established. The laryngoscope showed a perfectly immobile glottis in the cadaveric position. There was not the least motion of either the arytenoid cartilages or the vocal chords, on in- or expiration, or on attempts to phonate. The cause was found in an egg-sized tumour, felt near the right clavicle, and a "nut"-sized gland of stony hardness on the opposite side; these evidently pressed the recurrent laryngeal. New enlargements followed, and gradually the œsophagus was compressed, causing death. The *autopsy* showed that both recurrent nerves were embedded in a large mass of enlarged glands. The superior laryngeal nerves, on careful examination under the microscope, were perfectly normal. All the muscles were atrophied except the ant. crico-thyroid. The atrophy showed a progressive character. It was most marked in the crico-aryt. post., less in the lateralis, and far less in the thyr.-aryt.-int. and ext. (This confirms the theory of Semon and Rosenbach, that the abductor nerve-fibres are more vulnerable than the adductor.) The case affords a positive proof that the superior laryngeal nerve takes no part in the innervation of the interior of the larynx, and that the ant. crico-thyroid muscle is supplied by that nerve alone. This muscle acting alone cannot stretch the vocal chords, or move them to an extent sufficient for phonation.

Case II.—This was a cut-throat case. On the right side the hyo-thyroid membrane and the superior laryngral nerve were cut through. The man soon recovered. Examination showed catarrhal inflammation of the larynx, and on phonation the right vocal chord was in an abnormal position. It was not so tense as the opposite chord, and remained during phonation on a higher level than the latter, besides being slenderer. The difference of level was between half-a-millimètre and a millimètre, as far as could be judged. The patient was hoarse, and the catarrh hardly explained this, which was evidently due to lessened tension of one cord. No other derangement was present; the case affords, therefore, another proof that the superior laryngeal nerve simply stretches the vocal chord on its own side through the ant. crico-thyr. muscle. Thus Exner's theory of double innervation finds no support from the above cases, the first of which is of special value, as being an unmixed case followed by a careful autopsy and microscopical examination.

* BY DR. NEUMANN. (Buda-pesth), (*Berliner klin. Wochenschr.* No. 6, Feb. 9, 1891.)

WASHING OUT THE ORGANISM.*

THE proposal to treat certain diseases by the injection of successive infusions of normal blood deprived of its fibrine was made by Dr. Bozzolo. His paper appeared in the "Transactions" of the Italian Congress of Medicine, held in 1889. Instead of the injections being made into the veins, it was thought more convenient to introduce the fluids into the subcutaneous tissue and the cavity of the peritoneum. Bozzolo and Lespine especially recommended this method of treatment for uræmia to follow bloodletting.

The subject has been since taken up by Professors Cantani and Sahli, who advocate free saline injections into patients suffering from various infectious diseases and uræmic poisoning, which they call washing out the organism. Sahli has experimented with these injections upon animals, and finds that the injected fluid eliminated by the kidneys, the intestines, and the salivary glands.

Prof. Sanquirico, of Siena, has shown that by use of injections into the veins animals may be saved from poisoning. Sahli and Cantani make use of the hypodermic injections instead of intravenous ones, using five or six points at once, so that the water may penetrate more rapidly into the tissues. The places chosen for an injection are the arm, the thigh, and the walls of the abdomen. They use water impregnated

* "Gazzetta degli Ospitali," No. 6, e 12.

with salt in the proportion of 7 to the 1,000. The fluid is kept in a sterilised vessel, which is fitted with a thermometer. With this apparatus Sahli has treated one case of uræmia and two of typhoid fever, making injections of a litre of saline water daily. In all three he claims to have done benefit to the patients. In the case of uræmia all the characteristic symptoms of the disorder disappeared, and in the typhoid patients there was a rallying from a prostrate condition, and the temperature became lower. Sahli proposes also to try this treatment (the injection of the serum of the blood) in cases of perforation of the stomach where nourishment cannot be taken in the ordinary way. The writer in the *Gazzetta degli Ospitali* observes that he must have more cases, more decisive ones, before becoming convinced of the value of this treatment. In injecting large quantities of fluid one ought to consider whether the power of the heart and the action of the vessels are able to react against the aqueous plethora which is thus induced. He points out that in the cases of typhoid fever the patients had come to the twenty-eighth day, when a natural improvement might have been effected. He observes that the injections of saline matter into the veins in the collapse of cholera, and to combat the coma of diabetes, have a recognised therapeutic value. He observes that in the clinique of Genoa injections into the veins were found to be preferable to injections into the sub-cutaneous tissue.

INFLUENCE OF THE PANCREAS ON THE GENESIS OF DIABETES *

Much importance was once attributed to the pancreas in the causation of diabetes. The interest in this subject has been recently revived by Prof. Cantani and Dr. Hedon, Professor Aggregé at Montpelier, has published in the *Archives de Médecine Experimentale*, 1891, fasc. 1, an important study on the production of glucosuria after extirpation of the pancreas. He has found that where the pancreas is completely removed, if the animal survive, diabetes is always produced, and this diabetes exhibits not only the presence of sugar in the urine, but also the other usual symptoms, increased appetite and thirst; and although the animals eat much, they become thin and weak. The emaciation is so great that a dog, weighing 15 kilogrammes, lost a kilogramme and a half in weight in eight days; and another, weighing 12 kilogrammes, lost one-sixth of its weight in a fortnight. Dr. Hedon considers that this emaciation is owing to the diabetes, not to the want of the pancreatic juice. He found that where he succeeded in preventing the pancreatic secretion from reaching the intestinal tube by injecting melted paraffin into the canal of Wirsung, or by removing the head of the pancreas, the dogs did not become diabetic.

Hedon's observations fully confirm those of Mering and Minkowsky, and contradict those of Dr. Dominicis. This latter observer, out of 30 dogs experimented upon, had 13 negative results. From Hedon's observations it seems probable that in these latter cases the pancreas was wholly removed. Hedon thinks that the pancreas exercises its influence on the change of materials by means of the circulation. This influence may depend upon two causes: the introduction into the blood of a ferment elaborated by the pancreas having a decomposing action upon the sugar, or from the retention in the blood of a principle which is normally eliminated by the pancreas. This would cause increased transformation of the substances out of which glucose was usually formed, and a more active disintegration of the tissues. Lépine has performed a curious operation on a dog rendered diabetic by removing the pancreas. He transfused lymph taken from the thoracic duct of another dog not affected by glucosuria, but the sugar, although diminished in quantity, did not disappear from the urine.

* *Gazzetta degli Ospitali*, No. 10, 1891.

TEN YEARS' EXPERIENCE OF GASTRIC SURGERY.*

Dr. Torras has made a study of the statistics of the resection of the pylorus during the years from 1880 to 1890. From this it appears that in 1880 there was one extirpation followed by death. In 1881, out of 20 in whom the section of the pylorus was performed, there were 15 deaths and 5 cures. In 1882, the numbers stood, as out of 16 cases:—13 deaths and 3 cures; in 1883, 13 cases, 7 deaths and 6 cures; in 1884, 5 deaths and 3 cures; in 1885, 5 cases, 3 deaths and 2 cures; in 1886, 3 cases, 1 death and 2 cures; in 1887, 2 cases, 2 cures; in 1888, 1 case, 1 cure; in 1889, 1 case, 1 cure; in 1890, 2 cases and 2 cures.

In reviewing these statistics, Dr. Torras observes that the surgical enthusiasm which led a man so eminent as Billroth to sanction this operation has evidently decreased, till, in 1889, only one operation of the kind was performed, and two in 1890. This proves that the results have not corresponded to the hopes conceived, and that such an operation is very rarely indicated in cancer of the stomach. Dr. Torras details a case of exploratory laparotomy performed by Dr. Fargas in a woman of fifty-two, who had for several months suffered from vomiting and pain in the gastric region. In this situation a moveable tumour could be felt, about the size of an orange, which was supposed to be malignant, and to be attached to the gastro-colic epiploon. On opening the abdominal wall, it was found to be a carcinoma of the head of the pancreas, adhering to the duodenum and pylorus. Under these conditions, Dr. Fargas did not venture to attempt removal, but confined himself to cauterise with the thermo cautery some points of the bleeding surface of the tumour, and to close the incision with sutures. The outer wound healed in ten days, and the patient felt better for a month after, when she died in a cachectic condition.

Though most of those stated to be cured by the operation have survived above five years, yet none of them can be regarded as really out of danger from the disease. Dr. Torras would confine the operation of gastrotomy to cases in which digital or instrumental dilatation might be practised for simple stenosis of the pylorus, or for contraction of the orifice from cicatrices or fibrous tumours, or for the extraction of foreign bodies from the stomach.

* *Revista de Medicina y Cirurgia Practicas*, No. 35, 1891.

To a deputation who waited upon the Chancellor of the Exchequer, on Feb. 27th, urging him to increase the annual grant of £15,000 to the University Colleges of England, Mr. Goschen gave an encouraging reply.

Selected Papers.

Anatomy and Physiology.

ON THE GLYCOLYTIC FERMENT OF THE BLOOD.

By Drs. Lépine and Barral.

(*La France Méd.* February 27, 1891.)

The following method is suggested for the purpose of separating the glycolytic ferment of the blood. A healthy dog is bled during the period of digestion. The blood is defibrinated, and placed (at a temperature of 10° C.) in a powerful centrifugal machine. In about half-an-hour, the greater part of the serum is separated and is decanted. This serum is markedly richer in sugar than the blood-mass, does not possess, as a rule, any particular glycolytic power, *i.e.*, if left for an hour, at a temperature of 39° C., the proportion of sugar does not undergo any diminution, whereas ordinary blood, under similar conditions, loses at least 25 per cent. of its contained sugar. An equal bulk of cold salt-water is added to the mass left in the apparatus, and after another centrifugation. A mixture is thus obtained of salt-water and the remaining serum, and this is decanted. It contains less than 20 per cent. of albumen, whereas the serum proper contains at least 60 per cent. and a small quantity of sugar. Pure glucose is added to the extent of 2 per cent., and the glycolytic power is determined by the author's method, viz., (1) by titrating the sugar present, and (2) by a second titration, after an hour, at a temp. of 39° C. Its glycolytic power is thereby shown to be sufficiently well marked. A like quantity of cold saline solution is again added to the corpuscular mass, and left at a temp. of 10° C., and the whole is subjected to centrifugal action. The resulting liquid contains very little albumen and but a trace of sugar. If glucose be added, and the glycolytic power estimated as before, it will be found to be greatly in excess of the preceding liquid. If, on the other hand, saline solution containing sugar be added to the corpuscles, their glycolytic power will be found to have correspondingly diminished. This experiment confirms the view that the glycolytic power of the blood is not to be looked upon as a vital property of the albumen of the blood, seeing this power is the greatest in the solution which contains the least albumen, while it diminishes *pari passu* in the corpuscles. This transfer of the glycolytic principle into the solution militates, therefore, in favour of the action being due to a soluble ferment.

ON THE NERVOUS PLEXUSES OF THE IRIS.

By M. Boucheron. (*Soc. Ophthalm. de Paris*, Dec. 2, 1890.)

The branches of the ciliary nerves to the iris are disposed in plexuses, like the other branches of the same nerves. Three chief plexuses exist in the iris, one of an annular arrangement near the periphery, which is common to the iris and the ciliary bodies, a second in the central part arranged in arches, and one near the pupil in the region of the sphincter These plexuses are formed by nerve-branches, which cross one another and give off twigs to the secondary plexuses, which are situated between the loops of the principal plexuses. The meshes of the secondary plexuses near the sphincter are lozenge-shaped. In the remainder of the iris the nerve-filaments present a radial disposition, following the striae of the iris. These fibres are often very long, being half the depth of the iris, and are sometimes placed close to the bundles of the dilator muscle. There are also to be observed bouquets of radially directed fibres, which extend in every direction, and which are intermediate between the large and the small plexuses. These observations were made by the method of staining with chloride of gold.

THE MOVEMENTS OF THE CARPAL AND RADIO-CARPAL JOINTS.

By Dr. Imervoll.

In order to determine the movements of these joints, long fine nails were driven into the radius, the bones of the two rows of the carpus and the matacarpals. It was found that the movements of the radio-carpal articulation took place round an axis which, starting from the styloid process of the radius towards the pisiform bone, was directed from above and dorsally towards the palmar surface below. The movements of the intercarpal articulation took place around an axis drawn from the tuberosity of the scaphoid towards the radial border of the trapezoid, from below upwards, and from the palmar to the dorsal surface. Thus the two axes cross one another at the head of the os magnum. The author concludes, as to the combinations of movements, that the movements of the hand only occur at the radio-carpal and intercarpal joints, the carpo-metacarpal contributing very little to them. The only movements of the hand are flexion and extension, which take place when the two articulations move in the same direction. Abduction and adduction are only combinations of flexion and extension, due to the inclination of the axes, and to the sum of the lateral deviations. These movements are produced when the two articulations move in different directions, *i.e.*, the first articulation is flexed, and the second extended, or *vice versâ*.

ACTION OF CERTAIN DRUGS (ESPECIALLY OF EXTRACT OF VALERIAN) ON THE DESTRUCTION OF GLUCOSE IN THE BLOOD.

By Dr. Butte. (*Semaine Médicale*, Feb. 18, 1891.)

Claude Bernard made the observation that blood, on withdrawal from the vessels, contained some quantity of glucose, but that after a time this glucose disappeared completely. The author has sought to determine whether the use of any drugs will put a stop to this combustion of the contained glucose. He has arrived at the following conclusions:—(1) Addition of sodium bicarbonate, or morphine, to freshly-drawn blood has the effect of slowing this destruction. (2) Curare, on the other hand, hastens the change. (3) Addition of extract of valerian diminishes very considerably the destructive power. (4) Normal blood will rapidly cause disappearance of glucose, which may be added to it.* (5) Extract of valerian injected into the vessels acts in the same way as in the

* This seems to be quite out of accord with the results obtained by Bernard and Hoppe-Seyler, who found that grape-sugar might be added to blood at body-temperature, and kept for a long time without undergoing oxidation.

experiments *in vitro*; it delays the destruction of the glucose contained in the blood. Valerian would thus appear to have a delaying influence on certain phenomena of nutrition, and admitting, as has been stated, that this drug is of much benefit in diabetes, this would tend to show that diabetes is not one of the diseases due to impairment of nutrition.

CEREBRAL THERMOMETRY.

(*Gazzetta degli Ospitali*, No. 11, 1890.)

Fasola, using a thermo-electric pile and the galvanometer, has studied, in the Physiological Institute of Pavia, the increase of temperature in given regions of the surface of the cranium during the time speech was being exercised. He has ascertained that the action of talking determines a temporary rise of heat in the antero-lateral region of the head, corresponding to the cortical centre indicated by Broca. This rise of temperature was sometimes on one side, sometimes on both sides. The temperature on the left side was not always higher than on the right, and sometimes it was equal on both sides. Intense mental exertion, if short, did not produce a rise of temperature; but if it were prolonged, there was a slow and gradual rise of heat on the same side in which it was noticed, in the same individual, during the action of speaking. Fasola considers that this rise of temperature observed on the scalp indicates that there is a more intense variation in the deeper organ of the brain. These inquiries of Fasola confirm the observations of Dario Maragliano, Eduoardo Maragliano, and Seppilli. On the other hand Mosso, Marcacci, and Frank have insisted that changes in temperature in the brain could not be conducted to the surface so as to be indicated by the thermometer. The experiments of Frank show, that in circulating hot water in a coil through the brain of the dog, there was no observable increase of temperature on the surface of the head; but it was impossible to make such an experiment without causing a great derangement in the vascular innervation of the head. Most people will think that the observations of Fasola are a real confirmation of the former results of cerebral thermometry, since they indicate a higher temperature in the very points which might be expected to be put into function during the act of speaking.

THE EFFECTS OF MOVEMENTS OF THE HUMAN BODY ON THE SIZE OF THE SPINAL CANAL.

By Prof. R. W. Reid, M.D. and Ch. S. Sherrington, M.B.

The observations forming the subject of this paper were undertaken with a view to ascertain the possibility of an alteration taking place in the capacity of the cerebro-spinal canal during the performance of such movements as can, under ordinary or extraordinary circumstances, occur in the jointed walls of that canal between the bones composing the cranio-vertebral axis. The subject in these investigations was suspended, from the horizontal arm of a strong vertical stand, by means of an iron coronet which encircled the skull, and held it by four sharp-pointed thumbscrews, screwed into, but not perforating, the calvaria. An additional precaution against the slipping-down of the subject was obtained by inserting into the external auditory meatus the ends of a scissors-shaped clip. A horizontal iron bar, which could be adjusted at any height on the vertical stand, was employed to act as a fulcrum against which the body could be bent. A special apparatus, which cannot be described here, was devised for the purpose of measuring, by means of water displacement, the variations in the capacity of the canal, the water being in the first instance introduced into the interior of the cranium through a trephine hole in the vertex of the skull, close beside the superior longitudinal sinus. The conclusions arrived at by the observers were as follows:—(1) That when the body hangs freely and vertically from the skull the capacity of the cranio-vertebral canal is at a maximum. (2) That with the body in the above position, when the weight of the trunk and limbs is taken off by, for instance, lifting and supporting the body vertically, there is a diminution in the capacity of the cranio-vertebral canal, but the diminution is a very slight one. (3) That when the vertebral column is bent backward or forward, especially in the former direction, there is a not inconsiderable diminution in the capacity of the cranio-vertebral canal, as compared with its capacity when the body is hanging freely and vertically. (4) That the alterations in the curvatures on the spinal canal by various movements of the body do influence the capacity of that canal, but not to any extent; much more, however, in the child than in the adult. A point of practical interest is that, by suspension, the canal in the middle-aged adult is increased in capacity to the extent of some 100 cub. millimètres. Estimating the total capacity of the canal at 102 cubic centimètres, this measurement means an increase in the whole canal to the extent of 1—1020·0th. This increase is so small that it becomes difficult to conceive how, in the suspension treatment lately introduced for cases of tabes dorsalis, &c., there can, as has been sometimes claimed, be any actual stretching of the spinal cord.

Surgery.

ON SYNOSTOSIS OF THE VERTEBRÆ

By C. B. Lockwood, F.R.C.S. (*Anat. Soc. of Gt. Brit. & Irel.*, Nov. 1890.)

Mr. Lockwood exhibited several specimens of synostosis of the vertebræ, some of which were probably due to disease, and consisted in union of the bodies of the vertebræ by bridges of bone in the situation of the anterior common ligament, and by ossification of the intervertebral discs. In all these specimens the outgrowths of bone were eccentric, and did not protrude at all into the spinal canal. In one of the specimens, the articular facets of the axis and third cervical vertebræ were firmly synostosed on the right side; and in this case the evidences of disease were absent, suggesting that the fault may have been congenital. In one of the spinal columns in which dorsal vertebræ were synostosed, the lamina of the 4th lumbar vertebra was divided by a cleft which ran through it, between the superior and inferior articular facets of the right side; the left lamina was intact. This defect seemed to be rather common in the 5th lumbar vertebra, and might affect both sides. It was quite inexplicable by reference to ordinary accounts of the ossification of vertebræ.

EXTIRPATION OF SYPHILITIC STRICTURES OF THE RECTUM.

By M. Quenn. (*France Méd.* Feb. 27, 1891.)

The author advocates extirpation of these very obstinate and incurable strictures. He related the case of a woman suffering from a syphilitic stricture of the rectum, due to syphilitic stricture contracted seven years before. Eight months previously, an abscess had pointed at the margin of the arms and became a fistula. An operation was proposed and agreed to, and he opened up the rectum by a posterior incision, and removed the cicatricial tissue in its entirety. The rectum was then sutured to the anus, after removal of the condylomatous growths, and healing was complete in three weeks. Since that time the motions have been normal in shape, and when seen several months later the patient had remained in excellent health. Nothing abnormal could be detected in the rectum by examination. He quotes Allingham's dictum, that these strictures resisted all modes of treatment, as a justification of the operation. When the anus is involved, the operation must be undertaken through the perinæum; if only the rectum, then by Kraske's method.

PASSAGE OF A LARGE BILIARY CALCULUS THROUGH AN UMBILICAL FISTULA.

By Dr. La Rué Colegrove. (*N. Y. Med. Jour.* Jan. 31, 1891.)

This interesting case is thus described by the author:—He was called to an old lady, aged eighty-three, and found her suffering from severe pain, radiating from the umbilicus to the back and thighs, with her strength nearly exhausted for the want of sleep, which she had been unable to get for several nights on account of the constant pain. The bowels were constipated; she had a stool about once in every three days, attended, however, by no discomfort. There was no evidence of jaundice. The appetite was poor. Physical examination revealed a local circumscribed abscess around the umbilicus, which communicated externally by an umbilical fistula, through which was discharging a purulent fluid. At about an inch and a-half above and to the right of the umbilicus was a hard, small tumour, very sensitive to the touch. Hot fomentations were ordered with morphine to control pain, and a mild laxative. The local conditions described remained about the same for a week, when suddenly, at night, she was seized with intense pain confined to the umbilical region. She became collapsed, and a biliary calculus, measuring four inches in circumference, passed through the umbilical fistula. Subsequently the fistula entirely closed, and the patient recovered her usual health.

THE TREATMENT OF ACUTE EFFUSION IN THE KNEE-JOINT BY TAPPING.

(*Practitioner*, Feb. 1891, p. 81.)

Mr. Edmund Owen recommends the use of paracentesis in traumatic effusions into the knee-joint. In some of his cases the aspirator was employed, but in others the distended joint was dealt with by a hydrocele canula of about the gauge of a No. 1 English catheter. In the use of either instrument great care should be taken that it is aseptic, as well as the skin through which it is to be introduced. Another point to be attended to is, that when using the trochar and canula, just as the fluid is ceasing to flow, the surgeon should block the end of the canula with his finger, and so withdraw it that he does not introduce air into the joint. The puncture is made to one side of the patella. When withdrawing the canula the track is obliterated by firm pressure with the finger. The skin puncture is covered with a scrap of lint dipped in collodion, or by a little pad of dry wool. The knee, together with the upper half of the leg and the lower half of the thigh, is then enclosed in lateral splints of house-flannel and plaster of Paris. The limb is fixed in the extended position, the foot being slightly raised. The firm pressure which is made around the joint is comforting, and it effectually prevents further effusion into the synovial membrane.

THE TREATMENT OF CARBUNCLE BY CHLORAL.

By Dr. A. E. Spohn. (*Philadelphia Med. and Surg. Reporter*, Feb. 7, 1891.)

From time immemorial new methods of treating carbuncle have been advanced. The crucial incision, which for so long has kept possession of the field, seems to have now given way, to a very great extent, to the plan of erosion, by curette or otherwise, and the use of germicide applications. The plan recommended in the present paper, namely, the use of a ten-per-cent. lotion of chloral-hydrate as a lotion, seems to have been attended with good results in the author's hands, and may prove worthy of more extensive trial. The writer's notice was first directed to this remedy in an accidental manner. On a distant journey, he came across a man in fearful suffering from several carbuncles. The only medicine he had about him that offered any chance of relief was a saturated solution of chloral in water and glycerine. Some of this was applied on poultices, with the intention of making the ordinary crucial incision next morning. By that time, however, the carbuncles looked so much better that no incision was deemed necessary. Two months later, the same man applied for a prescription of the remedy used, stating that his carbuncles had diminished in size without sloughing, and that they soon got well. The carbuncle on the back was three inches in diameter. In subsequent attacks, similar treatment has met with equally good results. Since that case, many other patients suffering from carbuncle have been treated with the ten-per-cent. solution of chloral-hydrate in glycerine and water, applied constantly by means of absorbent cotton-wool, combined with the internal administration of sulphide of calcium. The patients have done well, having little or no pain. The chief advantage claimed by the writer is avoidance of the old crucial incision, which he regards as a relic of surgical barbarism.

THE SURGERY OF THE LIVER.

By Dr. Terrillon. (*Bull. Gén. de Therap.* Feb. 15, 1891.)

Operations on the liver have at present rarely been attempted; until quite recently surgeons had the greatest fear of even making a simple puncture for hepatic abscess, much more of making a resection of a portion of the organ, and Lawson Tait and Langen-

bech were the first to practice opening and draining of the gall-bladder. Dr. Terrillon, by experiments on rabbits and other animals, became convinced that such fear was quite unnecessary, and in the present communication gives a complete *résumé* of his experience of hepatic surgery. The paper is divided into four parts:—(1) Exploratory operations, punctures or incisions into the liver; (2) the surgery of the gall-bladder, *cholecystotomy* and *cholecystectomy;* (3) the opening of abscess of the liver; and (4) the best conditions and operative precautions to be adopted in resection of a portion of the liver. The following are his conclusions drawn from nine personal observations of the more serious operations:—(*a*) The surgery of the liver only demands a few special precautions which can be easily taken. Punctures into this organ are harmless, with ordinary antiseptic precautions. (*b*) The gall-bladder may always be opened and drained. This operation is known as *cholecystotomy*. All that is necessary is a simple, careful opening of the peritoneum. Calculi may either be removed or more or less decorticated, according to the case. If the bile-duct be obstructed, opening of the gall-bladder will be simply a palliative, but when it is permeable, cure is rapid; no fistula has been observed to persist after the operation. Cholecystectomy, on the other hand, can only be performed with impunity in very exceptional cases. Its utility is, besides, questionable, since simple incision with drainage gives equally good results. (*c*) Ablation of a portion of the liver is rendered harmless and easy if hæmorrhage be prevented by the use of an elastic ligature placed at the limit of incision, between the healthy and diseased parts.

LUNG SURGERY IN KOCH'S TREATMENT OF TUBERCULOSIS.

By Prof. R. Ramsay Wright. (*Canadian Practitioner*, Feb. 2, 1891.)

Professor Wright is making a series of communications from Berlin to the University of Toronto. In the first of his letters he gives an interesting summary of certain surgical procedures that have lately been carried out by Prof. Sonnenburg at the Moabit Hospital. It will be fresh in the minds of readers that Koch expressed his belief that much could be done by the surgeon as regards the removal of necrosed tuberculous tissue. Acting on that indication, Sonnenburg has now operated on several patients suffering from advanced phthisis with the view of establishing an outlet for the necrosed contents of cavities. The patients who were selected showed well-defined cavities, and their strength was not too much exhausted. None of them had undergone Koch's treatment, and the point as to whether operation should precede or follow that treatment has not yet been definitely decided. The cases that seem especially favourable are those with well-localised cavities in the apices, where adhesions have taken place. The latter occur, as a rule, as far down as the second rib, and the first intercostal space offers the easiest access to the cavity. It is necessary, however, to resect that part of the first rib which is uncovered by the clavicle, and the intercostal artery is avoided by stripping off the periosteum. "The pleura having been thus exposed, a trochar is thrust through it into the cavity, and then a red-hot Paquelin is introduced along the line of puncture, and the lung tissue carefully burnt through to the cavity. No bleeding occurs; the extent of the cavity is carefully sounded and the opening to it made freer. It is not necessary to repeat this, because the spontaneous discharge of the burnt tissue enlarges the opening sufficiently. The lung-tissue may, nevertheless, be burnt painlessly if it should be necessary to open into smaller subsidiary cavities; while the touching of the pleura, on the other hand, is painful. A plug of sterilised guaze and a dressing of sterilised wadding, with a guaze bandage, were employed." This operation was followed by very little disturbance, and as soon as the temperature reached normal, injections were begun. The treatment produced comparatively little reaction, but the walls of the cavities were observed to clean themselves and to become covered with small granulations. Sonnenburg thinks that, so far, results justify his new operation. In one of his cases adhesions were absent, and right pneumothorax resulted from that complication. Cauterisation along the line of puncture was therefore not completed. Adhesions formed at the end of a week, and the pneumothorax disappeared. On the eleventh day a free opening was established spontaneously by the sloughing of the cauterised tissue.

A CASE OF RUPTURED KIDNEY.

By Dr. A. H. Smith. (*New York Med. Rec.* Feb. 14, 1891.)

The author recently brought before the Practitioners' Society of New York a case of rupture of the kidney, which presented several interesting features. The patient was a man, who was admitted to the Presbyterian Hospital on Tuesday, giving a history of having been perfectly well up to Sunday, excepting a little constipation. On Sunday afternoon, without known cause, he was seized with pain in the right iliac fossa. The pain grew more and more severe until Tuesday, when he was admitted to the hospital. His temperature was then 102°—102·5° F. There was plainly visible tumefaction in the right iliac fossa; McBurney's point was very well marked (the puncture-point midway between the umbilicus and the superior spine of the ilium), there was some tendency toward general tumefaction of the abdomen. The patient's face showed a very anxious expression, and he was passed over to the surgical side for operation for appendicitis. But some delay took place before the operation could be done, and then it was observed that the tumefaction and sense of resistance had extended posteriorly, and, in fact, were more noticeable in the lumbar region than anteriorly. At about that time blood appeared in the urine. This fact led to an exploratory puncture over the kidney. Bloody urine was withdrawn. An incision was then made in the usual situation for reaching the kidney, and a large sac was opened, containing clots of blood, fluid blood, and urine. On further examination the kidney was found to be ruptured a distance of three-fourths of an inch or more in length. There was nothing to explain the accident. The patient was doing well. There were no signs of peritonitis. The tumefaction would seem to have been due to distention of the intestine. It was only on account of the delay, during which the physical signs changed, that an operation was not done for appendicitis. Besides the singular points in the case already mentioned, others were the absence of traumatism and of blood from the urine when the patient first entered the hospital. There was no account of hæmaturia before his admittance. In rupture of the

kidney, of which there was no history until the operation, one would expect extravasation of blood into the pelvis of the organ. If it was possible for the blood to be at first cut off from the urinary passages, he asked, how one could account for its gaining access thereto subsequently? The rupture in this case was on the convex surface of the organ.

Medicine.

THE PATHOGENESIS OF DIABETES.

By Dr. R. Lépine. (*Lyon Médical*, Jan. 25, 1891.)

Not long ago, the author drew attention to the interest attached to a careful histological examination of the pancreas of patients dead of diabetes. He had, in many cases, demonstrated the existence of a fibroid peri-acinal change; others have since observed, in some cases, an intercellular fibroid change which would, of course, have greatly interfered with the functions of the gland. In the dog, glycosuria may be produced by ablation of the pancreas; but even after this, the glycolytic power of the blood will not be entirely abolished. There are, then, in the dog other sources of the glycolytic ferment, probably the intestinal glands. The glycosuria thus produced may be due (1) to diminution of glycolysis. or (2) to excessive production of sugar. The author's experiments, however, tend to show that with excess of glucose in the blood there is always diminution of its glycolytic power. This rule applies to the hyperglycæmia brought about by asphyxia, curare, phlorhidzine, and other drugs. None of his experiments showed a primary hyper-production of sugar; but the diminution of glycolytic power in the most varied conditions was incontestable. It is also certain that, in some cases of diabetes, there is excessive production of sugar, seeing that these patients excrete daily more sugar than is produced in the same time by a healthy man. It may be that the excessive production of sugar is the *consequence* of lack of consumption; the central nervous system, feeling that the combustion of glucose is below the normal, it is intelligible that the sensation may be followed by an excitation, causing increased production of sugar. The central nervous system may unconsciously respond, by a fatal reflex act, to the sensation of cold, thus heaping more fuel on an already over-loaded fire.

KOCH'S TREATMENT.

By Dr. Ernest Laplace. (*New York Medical News*, Feb. 14, 1891.)

The following brief abstract from a clinical lecture by Professor Laplace, of Philadelphia, is of interest as indicating the attitude of the profession in America with regard to the new remedy. Extensive tuberculosis of the larynx, acute miliary tuberculosis, and tubercular meningitis are given as contra-indications for the use of the lymph. The conclusions arrived at are:—"(1) Koch's lymph is a valuable means of diagnosis, as a non-tuberculous person will not react under its use. (2) It is destructive to tuberculous tissue, and acts more effectually on tuberculosis of the surface of the body than elsewhere, from the possibility of the diseased tissue being shed. (3) The results obtained so far warrant us in using it to establish further its real merits. We cannot restore destroyed lung-tissue, but if we can prevent tuberculosis in the beginning—that is, change the tuberculous soil of the patient—we could soon have the disease under as complete control as small-pox is to-day. In fact, when the irremediably affected persons would die, we could almost eradicate the disease." With regard to the foregoing, it may be remarked that the statement that a non-tuberculous person will not react to the lymph is contrary to the generally received opinion in this country.

CASE OF ENTEROLITH.

By Dr. E. J. von Schroeder, Sen. (*Meditzinskia Pribavleniia k'Morskomü Sborniküi*, Jan. 1891, p. 54.)

Dr. von Schroeder, senior, of St. Petersburg, relates an instructive case of a gentleman, aged fifty-three, who during the last twenty-three years had been suffering from agonising attacks of abdominal colics, obstinate habitual constipation, hæmorrhoidal bleedings, meteorism, cardiac palpitation, and headache. During the last five years, or so, his stools were occasionally followed by spells of spasmodic abdominal pain, with discharge of thready or flocky mucus. In the course of one of such attacks, a hard foreign body was discharged, after which the patient gradually lost every one and all of his symptoms. The foreign body proved to be a friable bean-shaped pale brown calculus, measuring 3½ by 1½ centimètres, and weighing 4 grammes. It was composed of a thin superficial stratum of a pale brown colour, and a thicker greyish inner layer with a small white central nucleus. The concretion consisted of carbonate and phosphate of lime, its external layer containing a large proportion of red oxide of iron. The presence of the latter constituent may be easily explained by the fact that five years previously the gentleman had been treated by the Marienbad-Kreuzbrunnen mineral water, containing chalybeates in the form of carbonate of iron. A valuable review of international literature of the subject is adduced by the author.

ACUTE LYMPHATIC GLANDULAR FEVER. (DRUSENFIEBER).

By Dr. Protassow. (*Bull. Gén. de Therap.*, Jan. 30, 1891.)

This disease, first described by Pfeiffer in 1889, occurs in children of five to eight years old, and is characterised as follows:—The onset is sudden, often at night, and is accompanied by high febrile temperature (102° F.—104° F.), pains in the joints, headache, constipation, and furred tongue. On examination, lymphatic glands are found enlarged and tender along the posterior margin of the sterno-mastoid, and at the occiput. The fever is maintained during eight or ten days, fresh glands becoming enlarged, with bronchitis and increase in volume of liver and spleen. The disease always terminates in recovery. Several cases have been reported, bearing a fairly close resemblance *inter se*. The temperature curve in these cases is atypical, being very irregular in prolonged cases, presenting exacerbations, sometimes in the morning, at others in the evening. Moreover, the disease seems to be readily transmissible, in fact the author has always observed two cases in the same family. The disease is comparatively rare, and we hope confined to Russia, where all the cases described have occurred.

GENERAL HYPERÆSTHESIA OF THE GASTRIC MUCOUS MEMBRANE IN ANÆMIA AND CHLOROSIS.

By Dr. von Rosenheim. (*Wiener. Med. Wochens.* No. 6, 1891.)

The connection between blood-disease and stomach-affections is proved beyond a doubt. In chlorosis and anæmia of a slight degree, the affection of the blood is primary, that of the stomach secondary. First there is often anorexia in varying degrees, as a sign of the disturbances of sensibility in the nerves that give the feeling of hunger. The normal sensibility of the stomach is slight, while pathological disturbances vary to an extraordinary degree in the symptoms. In a number of cases of pronounced chlorosis, Rosenheim could prove without difficulty hyperæsthesia of the gastric mucous membrane. In the milder cases there was a feeling of pressure after eating, and in the more severe forms there was intractable vomiting. There were also symptoms of hyperæsthesia in the adjacent parts, probably emanating from the sympathetic system. In these conditions, argentum subsicum (0·2 : 100·0) was given, half-a-table spoonful in a wine-glass of water three times a day, with excellent results. The diet allowed was milk, tea, coffee with milk, broth, yolk of egg, biscuit, and shredded meat. He did not observe nervous symptoms, ventricular ulcer, or gastric catarrh. Möller and Leube were the first to point to the occurrences of gastric hyperæsthesia, especially in anæmic women. But Rosenheim found various forms of neuralgia in many cases. Cardialgia is, in its neuralgic character, separated from hyperæsthesia, as the latter does not occur spontaneously with lightning-like quickness, but is always caused by the ingesta of the stomach, or by external pressure. Rosenheim adduces two cases, in which, in addition to hyperæsthetic disturbances, there were symptoms of hyper-acidity (acid eructations and vomiting, and a gnawing pain). Lactic acid and hydrochloric acid were plainly observable in both cases. In the ten cases observed by Rosenheim, there was independent gastric neurosis, but an anatomical basis is very probable. There may have been erosions and epithelial waste of the mucous membrane, which is particularly vulnerable in anæmic subjects. This would give the best explanation of the existing hyperæsthesia, as well as of the success of the treatment with argentum subsicum.

THE RELIEF OF PRURITUS.

(*Prov. Med. Journal*, March, 1891, p. 171.)

The pruritus here alluded to is of various kinds, and depends upon a great variety of cutaneous lesions, and must not be confounded with the pruritus an independent disease of nervous origin. For its relief menthol is recommended, as it is found that it succeeds in calming itching of whatever nature it may be, but that it has its greatest effect in those cases where scratching provokes or keeps up the lesion of the skin and the pruritus. This is particularly true of urticaria, certain eczemas, and the pruritus following scabies of the itch mites have been destroyed. In urticaria a ten-per-cent. solution in alcohol or almond oil can be employed, and in acute and sub-acute forms is said to be capable of bringing about a speedy cure. For itching eczemas a five to ten-per-cent. solution in oil may be used, or from two to five per cent. of menthol may be added to oxide-of-zinc ointment. Upon excoriated surfaces and mucous membranes, care must be exercised not to use too strong applications, as a disagreeable sensation of burning may be caused, and for such parts an oily rather than an alcoholic solution should be chosen. Again, applications should not be made to the whole surface at once, since the sensation of cold which accompanies the anæsthetic action is in some cases very disagreeable. In pruritus ani, perinæal and genito-crural eczema, the results of treatment by menthol are said to be very favourable.

ON THE TUBERCULOSIS OF FOWLS.

By Prof. Angelo Mafucci. (*Centralbl. f. Allgem. Path.*, Bd. I, No. 13.)

The author concludes that (1) the tuberculosis of fowls is different in its cultures from that of mammals. (2) It can be cultivated satisfactorily and with pathogenic characteristics between 37 and 43 degrees. (3) Guinea-pigs and dogs are able to destroy the bacillus of fowl tuberculosis, but often are affected with local abscesses. (4) Guinea-pigs may die of marasmus without tubercles up to four months after inoculation. (5) The rabbit, besides local changes, may exhibit also those of a general nature, but with more special structure of the tubercle and a greater number of bacilli than in the hen. (6) Fowl tuberculosis possesses greater power of resistance against physical agencies. (7) The fowl cannot be affected by mammalian tuberculosis.

A CASE OF HYSTERICAL DEAFNESS.

By Dr. H. V. Wurdemann. (*New York Medical News*, Feb. 14, 1891.)

The writer remarks that, although the literature of hysteria is extensive, yet very few cases of hysterical deafness have been reported. The present case is remarkable from the fact that general sensation was impaired on both sides to about an equal degree, and also because of the intercurrence of disease, which, at first, was sufficient to produce the ear symptoms and to obscure the diagnosis. Miss F. S. complained of deafness of two weeks' duration, arising from a severe cold. She had well-marked "Hutchinson's teeth," and had been the subject of interstitial keratitis for many years. Well-developed catarrhal otitis media was present in both ears, and the secretion could be seen through the drum-membrane on the right. The left ear was cleared by catheterisation, but the fluid could not be removed from the right tympanum except by paracentesis of the membrane. Inflation by the Politzer bag was practised several times during the next eight days, when the patient asserted she was totally deaf. She could hear the voice, but was unable to distinguish any words. The fact that the low-pitched tuning-fork could be heard through the ear, but not through the bone, while the fork of high pitch could not be heard at all, first led to the suspicion of the true condition. The objective symptoms of the catarrhal inflammation were very slight, and the Eustachian tubes were open to Politzerisation. There were areas of anæsthesia and analgesia in the pinna, auditory canal, and drum-heads on both sides. Treatment aimed at making an impression on the patient. It consisted of a moderately strong gal-

vanic current to the ears and nape of the neck. Blisters were applied to the nape of the neck and to the mastoid processes, and hot baths ordered at night. At the same time alterative and specific treatment was continued for the eye and ear. Three days later she could hear and understand words spoken in German, but not in English. Next day both languages were plainly understood. When treatment was discontinued a fortnight later, the areas of diminished sensation persisted on either side, but in less degree.

THE DIAGNOSIS OF CEREBELLAR TUMOUR.

By Dr. Wetezel (Diss, Halle). (*Centralb. f. d. med. Wissench*, No. 5, Jan. 31, 1891.)

A hitherto healthy young man, without hereditary predisposition, was affected, soon after a blow on the back of the head, with attacks of giddiness and daily vomiting. After three months an improvement set in; but after 3½ years he presented the following symptoms:—Posterior headache, double vision, vomiting, disturbance of speech, uncertainty of gait, lowering of general strength, left facial paresis, tongue deviated to the left, increased reflexes, especially on the left side, congested papilla, left pupil dilated and reacting slowly, nystagmus, facial paræsthesiæ. In about two months more the following were superadded:—Ataxia of all the limbs, decided weakness (left), visual weakness (left), confusion of thought, irritable temper, visual hallucinations, loss of taste in right half of tongue, somnolence. Death ensued unexpectedly after some improvement had begun. The autopsy showed, agreeably to the diagnosis, a cerebellar tumour (round-celled sarcoma), which had destroyed the whole cerebellar convolution, reached to the hemispheres, especially the right, and coalesced with the floor of the fourth ventricle. The pons (right) was flattened, the medulla oblongata displaced and distorted. There was considerable dropsy of the ventricles. The author's table of fifty-eight cases, years 1881-89, agrees with Bernhardt's table of over ninety cases as to relative frequency of separate symptoms.

CASE OF ERYSIPELAS COMPLICATED BY SUPPURATIVE ARTHRITIS.

By Dr. M. N. Schreider. (*Bolnitchnaia Gazeta Botkïna*, No. 2, 1891, p. 42.)

Dr. Schreider, of the Alexandrovskaia Gorodskaia Bolnitza, St. Petersburg, details the following interesting and rare case:—A weakly-made, but fairly nourished, hereditary syphilitic peasant lad, aged fourteen, was admitted to the hospital on account of gummatous ulcer of the right shoulder. About four days later there appeared erysipelas of the right side of the neck, and right cheek and ear, the process subsequently spreading over the scalp, left cheek, right upper extremity down to the middle of the forearm, and ultimately involving the upper region of the chest, both anteriorly and posteriorly. On the tenth day, the patient complained of pain about the right knee; while on the eleventh, the joint became considerably enlarged and distended with effusion. On the twelfth, on aspiration (by means of a sterilized hypodermic syringe), there was obtained a perfectly clear serous fluid, which contained abundant streptococci, but no morphological elements of any other kind. On the fifteenth day, the effusion became sero-purulent. On the sixteenth, the right elbow-joint was found to be swollen, tender, and painful. In the course of time, the cubital arthritis subsided, ending in a complete resolution, but the inflammation of the knee-joint assumed a severe and obstinate character. Ultimately, arthrotomy was performed, the patient leaving the hospital with ankylosed joint (notwithstanding a prolonged treatment with massage). The microbe found in the articular effusion proved to be Fehleisen's streptococcus; the inoculation of the fluid to a rabbit's ear giving rise to a typical erysipelatous inflammation. Dr. Schreider points to a great rarity ot erysipelatoid metastatic arthritis. Similar cases were described by Perroud (double gonitis supervening on the fourteenth day of facial erysipelas); and Bourcy (double inflammation of the knee and ankle joints, developing similarly on the fourteenth day of facial erysipelas). Another instance of the kind was communicated to the author by Dr. Razüvaieff, in whose patient (a shopman of nineteen, with facial and cervical erysipelas) the knee, elbow, and ankle joints had been inflamed, the case speedily terminating in a complete resolution.

SCARLATINA WITHOUT PYREXIA.

By Dr. Wertheimer. (*Münch. Med. Wochensch.*, Feb. 1891.)

Dr. Wertheimer reports a case of scarlatina occuring in a child, seven years of age, in whom, though the eruption was well marked, and the tonsils and tongue presented their characteristic appearance, there was absolutely no pyrexia, either morning or evening, the highest point reached being 99·6° F. The pulse, however, was rapid, being from 116 to 120 during the first three days. There was no albuminuria; desquamation began on the ninth day. He also mentions a second case, occurring in a child of about the same age, where, though all the distinctive signs of scarlatina were present, the only time there was any abnormal temperature was the evening of the second day; then it was 100·6° F. Here, too, there was marked rapidity of pulse, and he suggests that this is probably an important sign in diagnosing the rare cases of apyrexial scarlatina. His opinion is confirmed by Dr. Betz, who recently observed two apyrexial cases where the pulse was also very rapid.

NEPHRITIS IN PHTHISIS.

By Dr. C. V. Kahlden. (*Centralblatt f. allg. Path. u. pathol. Anat.*, Feb. 1891.)

Apart from amyloid degeneration and specific tubercular processes, there are found, very frequently in the kidneys of those dying of phthisis, fairly constant anatomical changes, mostly limited to the cortex. The organ is not enlarged, or is but slightly so, the capsule strips readily, leaving a pale yellowish surface, and the cortex is little, if at all, increased in width. The striking fact about such a kidney is the yellowish colour it presents. The medullary substance is pale and, like the rest of the organ, bloodless. The microscope appearances may be summed up thus:—Most glomeruli are healthy, a few have their intracapsular space filled with a finely granular material, and, but rarely, the whole glomerulus is converted into a pale disc. Sometimes Bowman's capsule is thickened, and a round-celled infiltration is seen here

and there about the glomeruli. The cells in some of the tubules become less columnar and more cubical. Under one-twelfth, fat granules are seen in the granular material, in the intracapsular space, and fatty cells within the capillary tuft; but, more remarkable still, is the tolerably wide-spread fatty change seen in the interstitial tissue, both in the fibres and cells. In the vessel-walls, both in the cells and elsewhere, the same fatty granules are visible. The thickening of the capsule, the destruction of certain glomeruli, and the altered shape of the epithelial cells are chronic changes—how old they are is not known. The disease is mostly without symptoms. Very seldom there is a slight and occasional albuminuria, which may be referred to the fever. Rarely an attack of acute nephritis is observed, but its relation to the lung-disease is doubtful, whereas the above chronic degenerative changes are almost constantly seen. The nature of the relation between this chronic renal change and phthisis is obscure. The author says this disease is more common than is thought, and that it is rarely absent in advanced cases of phthisis. Hypertrophy of the heart is seldom seen in it, and this is accounted for by the relative slightness and limited distribution of the anatomical change. The relation of this renal disease to the marasmus of phthisis is not discussed here by the author.

LOCALISED PARTIAL NEPHRITIS.

By MM. Caffer and Gaston. (*Revue de Médicine*, Feb. 1891.)

In some cases of Bright's disease, after well-directed treatment, a certain fixed quantity of albumen remains in the urine after all the other symptoms have disappeared, and the patient has regained apparent health. The authors argue that in these cases a limited localised nephritis remains, and that it is useless to continue to combat the albuminuria, which, indeed, persists in spite of all treatment. The nephritis may be considered cured, since all grave symptoms have disappeared. The general health may be good. The persistent albuminuria results from a limited and incurable lesion. It is an infirmity, but no longer a disease in process of evolution. It requires no special treatment, and the patient has merely to remember to avoid throwing a strain on his weakened organ. The authors do not pretend to offer any anatomical proofs, but rest their arguments upon clinical facts. They record four observations which exemplify the condition in question; patients, who having suffered for a more or less lengthened period from the ordinary symptoms of Bright's disease, improved in all respects, but the urine continued to show a certain fixed quantity of albumen. The authors conclude that when a certain constant degree of albuminuria persists, when no therapeutic measures succeed in reducing this albuminuria, and when the patient enjoys good health, one should think of partial nephritis, if there has been a history of a previous acute attack. It is not necessary to give a grave prognosis in these cases, even though the quantity of albumen is somewhat considerable. The subject of this condition is not sound, but he will continue to live if he takes certain precautions. Such a patient should not be confined to his room, and put on strict diet. Dieting will not influence the amount of albumen. He has merely to avoid cold, and all causes of renal irritation, whether dietetic or medicinal. In this manner, patients with a lame kidney can live, not the life of an invalid, but the life of an ordinary healthy person. They have merely to take care of themselves.

THE COLITIS OF INFANTS.

By Dr. James M. French. (*The Journal of the American Medical Association*, Jan. 17, 1891.)

The author contributes in this paper some useful observations on colitis of infants. He says acute colitis, in the sense of an acute catarrh of the large intestine, occurs in infants as a primary disease, or as a part of the affection which has received, among other names, the designation entero-colitis. In its primary form, colitis is usually due to errors in diet, especially when it affects infants which have passed the weaning period: occasionally it complicates other diseases, as acute exanthemata, or arises from the irritation of foreign bodies or parasites in the bowels. It begins, in some cases, gradually, and runs a mild, nearly or quite a febrile, course of a few days' duration; in other cases it begins with sudden alarming symptoms, rapid rise of temperature, great prostration, nervous excitation, even convulsions, with frequent small bloody stools, consisting largely of mucus. It may then speedily terminate in death, or may last for weeks or months. Entero-colitis is a disease which begins in the upper portion of the alimentary canal, and progresses downwards, rather than one that affects all portions at the same time. The treatment of colitis is to be considered apart from that of affections of the small intestine only in the comparatively infrequent primary form of the disease. But, even in cases of this nature, attention must be given to the character of the gastric and intestinal digestion. Incomplete digestion, or abnormal fermentation of any kind, may act either as an exciting cause of inflammation, or may tend to prolong its duration when once it has begun. Errors in diet must therefore be carefully rectified, and a diet suitable to the age of the patient must be selected. Only liquid-food—milk, and beef or mutton broths—is to be permitted. If constipation has preceded the attack, or if, from the history, improper diet, the presence of flatus, or the character of the stools, the presence of abnormally fermented matter, or other irritant substances, be suspected, calomel in doses of from one-tenth to one-half gr., may be given every three hours until purgation is produced. In a majority of cases, little or no other treatment is required.

EPILEPSY WITH DOUBLE CONSCIOUSNESS.

By Dr. G. R. Trowbridge. (*New York Medical News*, Feb. 21, 1891.)

"Double consciousness" is regarded by most writers as a curious phenomenon, especially when associated with epilepsy. The following case, which was under treatment at the State Hospital for the Insane, Danville, is therefore worthy of being placed on record:—Patient is a German, male, aged fifty-two; second admission. Weight, about one hundred and fifty pounds; thick set, and very muscular. All of his toes have been lost, and most of his fingers disabled, by frost-bite. He has been subject to epileptic convulsions since 1862 (six years), and was first attacked while working as a stoker on a trans-Atlantic steamer. No family history of epilepsy, nervous disease, or insanity.

"The epileptic attacks are of a most violent nature (*grand mal*), and occur about once every month or six weeks. He then has from three to six convulsions, and never during the time he has been in my charge has he had any single convulsions in the intervals. For several days preceding the convulsion he complains of pain in the left inguinal region, and says it is due to a fall he had when on board ship. There is no evidence of anything abnormal in this region, and I regard the pain as an aura, as he never complains of it except just before the attack. Shortly after this aura (from twenty-four to thirty-six hours) he has a convulsion, and on recovering from it becomes somewhat irritable and sullen. Other convulsions follow, until he has had from three to six. His irritability and sullenness increase in proportion to the number of convulsions, and he finally lapses into a perfect condition of double identity, the original *ego* being completely destroyed, and during this period of second self it is necessary to place him in seclusion. The time occupied during the transition from the first condition to the second is from two to four days, varying according to the interval between the epileptic attacks. During the period of 'second self' he becomes very violent and abusive, and can be approached only after being physically overpowered. When he passes into this condition he at first refuses nourishment, but towards the latter part of the period he will swallow if a cup is held to his mouth, though it is necessary to restrain his hands and feet. If left to himself he is, as a rule, comparatively quiet, and, so far as I can ascertain, his sleep is not disturbed. This condition lasts from five to ten days, and the return to a normal condition rarely occupies more than twenty-four hours, though on one or two occasions it has taken somewhat longer. For some time after his return to a normal condition he speaks in a husky voice, and complains that his throat is sore, and for some days he is abstracted and listless. When in his normal condition, the man is of a pleasant disposition, and does a great deal of work about the ward. When questioned in regard to his sensations during the period of 'second self,' he says he can tell nothing except that everybody and everything are strange to him, and that he knows nothing of what he says or does. But he can describe circumstances and occurrences which took place before his second condition, *i.e.*, during a previous normal period. The expression of his face during the period of 'second self' is altered, changing from a rather pleasant expression to one of intense anger and hatred. In short, I do not think that Stevenson's 'Dr. Jekyll and Mr. Hyde' could be worse than this man, were he given his liberty. On one occasion, before his admission to this hospital, while in his second state, he was disturbed by his wife, who endeavoured to make him eat, and in the paroxysm of rage caused by this he tried to kill her with a hatchet, but was prevented by the timely interference of his neighbours. He afterwards said he had no recollection at all of the matter." There is no doubt a direct casual relationship between the epilepsy in this case and the mental condition which destroys the *ego* completely for the time being. It is well known that the action of the intellectual centres is depressed by a rapid succession of epileptic convulsions. Spitza regards the condition as one of extreme rarity, and as limited to the mental disturbances of menstruation and to periodical insanity. Savage maintains that double consciousness may accompany epilepsy, and that it is closely allied to somnambulism. The interesting points in this case are the association of epilepsy with double consciousness, and the almost unvarying periodicity and uniformity of the convulsions and sequelæ.

RECOVERY FROM TETANOID CONVULSIONS IN AN INFANT.

By Dr. T. R. Donaldson. (*Canadian Practitioner*. Feb. 16, 1891.)

The author relates a very curious case of tetanoid convulsions supervening in an infant as the result of peri-umbilical irritation. The child was born on December 8th and did well until the 17th, when it was first noticed that there was something wrong. At times the child cried, and was restless, the left eye winked, the muscles of the left side of the face twitched, and the left side of the tongue swelled up in marked contradistinction to the right side. These symptoms began so slightly and progressed so quietly that the mother and a most intelligent nurse did not think it necessary to send for advice until the 19th, two days after the onset of the illness. Apart from the convulsions, the child was the picture of health, well nourished, with digestion perfect, and with evacuations natural in quantity, quality, and frequency. The anterior fontanelle was somewhat fuller than usual, but that was entirely from the exceptionally well-nourished condition of the child. The temperature was normal, and continued so throughout the attack. The only unusual condition, apart from the convulsions, was that the cord had not separated. There was a distinct putrefactive odour about the black dried-up cord, but to the eye there was nothing to be seen but the usual amount of ulceration at the line of demarcation between the dead cord and the umbilicus. There was no inflammatory blush, no swelling, no unusual tenderness. At that time the convulsions were confined to the left side of the body; restlessness led on to tonic muscular contraction, and that was succeeded by well-marked clonic convulsions. Between the attacks the child was apparently perfectly well. Suspecting that probably convulsions arose from some irritative condition at the umbilicus, he completed the separation of the cord with scissors, giving directions that the stump should be carefully washed at intervals with corrosive sublimate solution, and dressed with zinc ointment; ordered one drop of chlorodyne to be given, mixed with water, in six doses, and expressed the hope that, as the supposed irritation at the umbilicus subsided, the fits would disappear. The fits got worse; bromide of potassium and chloral, given up to 6 grains of the bromide and 4 grains of the chloral in twenty-four hours, had no effect whatever in subduing their number or severity; nor had chlorodyne, two minims every four hours; nor had the local application of a 20-per-cent. solution of cocaine, nor of the solid nitrate of silver. Warm baths increased them; they extended soon to the right side, and ultimately the whole muscular system was involved. They increased to the number of 204 in the twenty-four hours, while during their occurrence the tongue became blue-black, and at times well-marked opisthotonos supervened. On one occasion they were never absent for one whole hour, and for a period of nine hours the child was unable to suck, in consequence of the frequency of the fits. When they did not come too rapidly, it took its nourishment greedily. They varied in frequency—from about 100 to 204 in the twenty-four hours—but not in such a way as to warrant us in be-

lieving that treatment, local or general, had any beneficial effect. Dr. Brakenridge, who saw the child with him on 24th December and subsequently, confirmed his diagnosis, giving it as his opinion that the convulsions were not due to any disease originating in the brain, but that they were peripheral in their origin, and probably had the umbilicus as their starting-point. Meanwhile, in spite of treatment, and although the navel stump was quickly and nicely healing, the fits went on, and ultimately Mr. Chiene was asked to advise. His opinion was that the condition was allied to tetanus, and he advised that before excision was had recourse to, a more thorough antiseptic treatment of the stump should be tried. All medicine was stopped, and iodoform was carefully and diligently applied to the navel stump. As no improvement resulted, chloride of zinc solution (40 grs. to ʒj.) was thoroughly applied on the 29th. That failing to benefit, the umbilicus was freely and deeply excised. There was improvement at once, and the fits gradually decreased in severity and number. From 8 a.m., 4th January, 1887, until the evening of the 5th, they entirely ceased, but on that evening they again began. Next day he removed three silkworm-gut stitches, which were apparently a source of irritation as evidenced by an inflammatory blush around them, and the fits again began to decrease in number and severity, while at the same time the child slept more, and took its nourishment better. As they did not entirely disappear, and as the nurse had previously noticed that the child was distinctly better at the time when, after the employment of carbolic lotion during the operation, the urine was dark coloured, Dr. Brakenridge suggested the use of sulpho-carbolate of soda internally. On the 13th January it was prescribed in 4-grain doses every two hours. That quantity, however, upsets the digestion, and the fits increased. The dose was accordingly diminished. The fits again disappeared, but they began to return mildly on the 25th January, and reached the number of twenty-three in the twenty-four hours on the 27th January, and sulpho-carbolate, which had been given up, was again administered. On this occasion the fits were not so severe, and after the first day or two they only affected the eyes and mouth, gradually becoming slighter. On the 30th January one slight fit ended the attacks, and the child has remained well ever since. The author insists upon the necessity for taking routine measures to keep the umbilical cord aseptic during the period following delivery.

EPITHELIOMA OF THE ŒSOPHAGUS SIMULATING AORTIC ANEURISM.

By Dr. Newman. (*Glasgow Med. Jour.*, March, 1891.)

Dr. Newman reported in December, 1890, to the Medico-Chirurgical Society two instructive cases, one of which is here briefly reproduced. G. A., aged fifty-seven, complained of difficulty in swallowing since December, 1889. In February, 1890, his diet had to be confined to liquid food. The difficulty of swallowing seemed to be caused by constriction at the level of the circoid cartilage; after that point there was no trouble. There had never been vomiting, cough, alteration in the voice, or pain. The pupils were equal, and the radial pulses synchronous and equal in force, although somewhat weaker than normal. On passing a bougie (No. 16), an obstruction was met with, thirteen inches from the teeth; evidently, therefore, the stricture was situated between the level of the suprasternal notch and that of the bifurcation of the trachea. The largest size of bougie which passed through the stricture was a No. 6. There had been no syphilis nor traumatic injury of œsophagus in the history of the patient. Palpation of the neck indicated nothing abnormal in the line of the gullet nor in the lymphatic glands. Larynx and trachea strictly healthy, but on the least exertion the patient suffered from well-marked dyspnœa. The cardiac sounds were pure, but feeble and very irregular in rhythm. But no evidence of valvular disease. There was a distinct local dulness in the interscapular space, and to the left side of the spine upwards and downwards, from the level of the fourth dorsal vertebra, over an area of about four square inches. Air did not enter the left lung so freely as the right. On 1st April, Dr. Newman, satisfied that the case was one of cancer of the œsophagus demanding no surgical interference, transferred the patient to Dr. Anderson's care. Kept at rest in bed and properly treated, the patient improved, and was dismissed. Dr. Newman now doubted the accuracy of his first diagnosis, and suspected an aneurism or solid tumour at the bifurcation of the trachea. In the autumn the patient again began to suffer from dysphagia, and had suffered greatly from breathlessness ever since dismissal from the infirmary. After re-admission to Dr. Newman's ward, it was found impossible to get a bougie (No. 11) past thirteen inches from the teeth. Patient in very much the same condition as in April, suffering, perhaps, more from dyspnœa. Grave suspicions of an aneurism. On October 14 patient spat up dark blood, and for the first time complained of a pain in the chest. Later there was a gnawing pain, deep-seated in præcordial region. Sudden distress in the chest caused patient to start up. Immediately he sank back, face blanched, pulse small and thready, and soon almost imperceptible. He continued to breathe after pulse had ceased. The breathing was of a sighing nature. Interval between respiration about half-a-minute, gradually increasing until complete cessation. This form of breathing lasted about eight minutes.

The *post-mortem* revealed a malignant perforating ulcer of the œsophagus opening into the thoracic aorta, causing fatal hæmorrhage into the stomach and intestine. The pericardium contained three ounces of slightly blood-stained serum. Heart very soft and flabby; external fat much increased on surface of right ventricle. The aortic and pulmonary curtains competent. Slight atheroma a little above the free margins of the semilunar curtains, but the orifices of the coronary arteries patent. Muscular tissue soft; but, on the whole, normal-looking. Slight yellowishness of fibres observed on cutting into the septum. The left lung fairly adherent; the pleura here is of cartilaginous hardness, slightly calcareous in parts. This firm adherence does not, however, extend to the front. After the thoracic viscera are removed, a probe is passed into the gullet from above; its progress is arrested at the end of the bifurcation of the trachea. Passed *upwards* from the gastric end of the gullet, the probe passes through the entire length without difficulty. Trachea opened along posterior wall almost to bifurcation,—all is normal. The thoracic aorta laid open with scissors from below; intestinal coat tolerably sound, but an inch below the arch, towards its posterior border, a circular opening, with thin and somewhat ragged edges, is found, leading into a ragged cavity. The gullet is next laid open, and at the level of obstruction a large ragged ulcerated cavity, containing *débris* of blood-clot

and broken-down tissue, is found in its wall. The upper margin of this excavation is raised and rather sharp, with the typical characters of the margins of a malignant ulcer. The cavity had eaten its way into the aorta and produced the aperture there. The wall of the aorta in the neighbourhood of the aperture, which is about the size of a threepenny-piece, is somewhat thinned.

Remarks.—(1) The deficiency in the respiratory murmur and the dulness on the left side of the spine was due to an old limited pleurisy. (2) The absence of emaciation and the improvement in swallowing resulted from ulceration of the carcinomatous growth. (3) The mode of death was the immediate result of the ulcerative process extending through the gullet and the wall of the aorta. When an obstruction to swallowing is detected at the level of the bifurcation of the trachea, great care must be taken in the passage of bougies. When Dr. Newman was pathologist to the Royal Infirmary, a case came under his observation, where a very complete obstruction to swallowing was caused by an aneurism of the aorta. A bougie had been passed, perforating the œsophagus and the wall of the aorta. Death from hæmorrhage resulted in the infirmary, to which the patient had then been sent. In consequence Dr. Newman has been always careful, when he discovers an obstruction, in the situation indicated, to avoid the passage of bougies, unless it is very evident that there is no aneurism or ulceration of the œsophagus.

Pharmacology and Therapeutics.

TELLURATE OF SODIUM IN NIGHT-SWEATS OF PHTHISIS.

(*Rev. Gén. de Clin. et de Thérap.* Feb. 18, 1891.)

In doses of one-thirty-second to one-fifteenth of a grain, prescribed in solution, with alcohol of an agreeable form (julep alcoolisé), and taken at bedtime, tellurate of sodium is successful in staving off the exhausting night sweats in phthisis. It unfortunately gives an odour of garlic to the breath. It has been prescribed with success by Drs. Combemale and Dubiquet, of Lille.

HOT WATER AS A HŒMOSTATIC AFTER EXTRACTION OF TEETH.

By Dr. Scheff. (*Lyon Médical*, Feb. 15, 1891.)

Hot water has long been employed to arrest hæmorrhage in gynæcological practice. Guided by this idea, Dr. Scheff employs it to arrest obstinate hæmorrhage after extraction of teeth. He fills a large glass syringe and allows the hot water to fall, drop by drop, into the bleeding cavity till the hæmorrhage ceases. In many cases this treatment succeeds even after failure to arrest hæmorrhage by tampons of iodoform gauze.

RULES FOR THE TREATMENT OF WHOOPING-COUGH.

(*Rev. Gén. de Clin. et de Thér.* Jan. 28, 1891.)

The following is the plan of treatment here recommended:—*First period*—Keep the patient indoors or in bed, give mixture containing aconite and belladonna, either with or without opium (*e.g.*, ℞ Tinct. aconiti; tr. bellad.; tr. camph. co., āā. Dose, ♏ x.—♏ xxx. daily, according to age). If there be fever give more aconite, and if intestinal catarrh, increase the quantity of opium. *Second period*—Give drugs such as ipecacuanha. Treat also the dyspepsia, which is usually present. *Third period*—Treat any tracheo-bronchial adenopathy by cod-liver oil, iodine, tonics, &c.

THE DIURETIC EFFECTS OF MILK-SUGAR.

By Dr. Kianowski. (*Bull. Gén. de Thérap.*, Feb. 15, 1891.)

Experiments on the diuretic action of milk-sugar were made, first, on healthy and cardiac patients, under no restrictions as to diet; and secondly, on patients subjected to a diet similar to that given by Dr. Germain Sée in his previous experiments on the subject. The dose given was about three ounces, in a quart of boiled water. His conclusions are as follows:—(1) Doses of 1½—3 oz. do not always produce diuresis. (2) No action is exerted on the heart. (3) The treatment often causes gastro-intestinal troubles. (4) The diet has no influence on the diuresis produced, but the restricted diet is badly borne by the patients.

THERAPEUTIC EFFECTS OF DIURETINE.

By Dr. Heissler. (*Ibid.*)

The accounts of the action of diuretine (theobromine-sodio-salicylate) have varied so much that it is not by any means certain whether this drug can be admitted on our list of reliable diuretics. All we can at present do is to form our own conclusions from the published results. Dr. Heissler tried its effect on one healthy subject, four cardiac patients, two patients with nephritis, and one with cirrhosis of the liver. His observations were made at three periods, viz., before, during, and after the use of the drug. The results are as follows:—(1) The drug certainly produces a rise of blood-pressure. (2) It is not only a diuretic, but has an action on the heart. (3) It gives remarkable results, especially in cases of "asystole," without valvular incompetence. (4) When the heart-muscle is diseased, the diuretic effects are much less marked. (5) Diuresis is much more abundantly produced in acute than in chronic nephritis. Albumen is never increased as a consequence of the administration of diuretine. (6) No diuresis followed its use in the case of cirrhosis of the liver. (7) On the healthy man the drug has but little effect.

THE TREATMENT OF SITIOPHOBIA IN THE INSANE.

By Dr. A. Voisin. (*Bull. Gén. de Thérap.*, Jan. 30, 1891.)

Refusal of food is a symptom very frequently observed in the insane, and the feeding of such patients has engaged the attention of most psychologists. The plan usually adopted is to supply food by means of an œsophageal tube, and in many cases the dread of this operation is sufficient to overcome the trouble. Dr. Voisin would draw attention to a fact observed by himself that all such symptoms as refusal to feed, attempts at suicide, fear of being poisoned, and ideas of mysticism or hallucinations, occurring in the inmates of asylums, are accompanied by a disordered

state of the digestive tract. He suggests that this is the true anatomical base on which the troubles depend. His treatment is therefore directed specially to remedying the gastric trouble. For this purpose he adopts the accepted plan of feeding by tube, but previous to the introduction of food he washes out the stomach by injections of warm water. The best results are obtained in melancholia, and if the first refusal to take food be treated in this manner, a cure speedily results. Even confirmed cases may be cured of this, their most troublesome symptoms, although the melancholia may still remain. The plan is certainly worthy of adoption.

ETIOLOGY AND TREATMENT OF PURPURA (SCURVY).

By Dr. Bertheusson. (*Ibid.*)

The author has had exceptional opportunities for the study of this disease in St. Petersburg. In the spring of 1889, there were at the Nicolas Hospital as many as two hundred and twenty-five cases of purpura. All patients presented the common symptom of anæmia, or "scorbutic cachexia," and in a certain number of cases other symptoms (purpura, exudations, etc.) were completely absent. Severe hæmorrhagic effusion into the pleura, peritoneum, pericardium, joints, etc., were observed in forty-six cases. A febrile period was always present, somtimes little marked, but in other cases the temperature rose to 104° F., or even higher. The duration of this period varied from one to six weeks. The following are the author's conclusions:—(1) Purpura scorbutica is an infectious disorder; it occurs in epidemics, especially at certain times of the year (spring and summer), and spreads from one, or several local centres. Other patients in the same ward may be attacked by the disease, and a period of incubation can be determined, which would appear to be somewhat long. (2) The "infectious" theory can alone explain the existence of "purpura of wounds" (wound-scurvy), as described by Dr. W. Koch. (3) The specific agent of this disease remains as yet unknown. Undoubtedly, absence of potash-salts from the food, and other conditions, may be a predisposing cause; but cases occur in which no such conditions are present. (4) It is very probable that, once cured, the patient receives immunity from a fresh attack. The treatment consists in administration of salicylate of soda, and of carbolic, citric, sulphuric, and phosphoric acids; milk-diet, or use of easily assimilable foods. The best local treatment is to apply compresses soaked in aromatic vinegar diluted with warm water (1 : 3), and frequent gargles of the mouth with boric acid, tannin, etc.

THE INTRAVENOUS TRANSFUSION OF SERUM.

By Dr. R. Lépine. (*Sémaine Médicale*, Feb. 25, 1891.)

Lépine has gone far to show that when the blood of a goat or dog (animals refractory to tuberculosis) is injected into a phthisical patient, he acquires in some measure the immunity which belonged to the animal, and his physical condition improves. He found, however, that very small quantities could be introduced subcutaneously, owing to the great pain produced. The method now recommended is to withdraw the blood from a vein of the animal by means of a glass cannula, allowing it to flow into a cooled capsule, to defibrinate this, and separate the corpuscles by means of the centrifugal machine. The resulting serum is then placed in a sterile reservoir, which is placed in connection with a silver cannula inserted into one of the veins at the bend of the elbow. By raising the reservoir the serum can be made to flow into the vein, stopping directly the patient feels discomfort. In this manner about 100 c.c. can be infused. Dr. Lépine has treated several phthisical patients in this manner, and save for an occasional urticaria, no ill-effects have been experienced. He is not yet in a position to say whether this transfusion is of real service in phthisis; further experience is required. However, the idea of treating an infectious disease by infusion of blood or serum from an animal refractory to the disease, is one which merits careful enquiry. The utilization of *vital* properties, and their transference from one subject to another, is quite a new branch, and a highly interesting one, of modern therapeutics.

ON ACID MEDICATION IN DISORDERS OF DIGESTION.

By Dr. Covtaret. (*Bull. Gén. de Thérap.* Jan. 30, 1891.)

The pathology and treatment of digestive disorders has of late been engaging the attention of many observers in France. The brilliant writings of G. Sée, G. Lyon, Huchard, and others have done much to disseminate a more thorough knowledge of the causation of dyspepsia. In this matter Germany was, until recently, far in advance. The "French treatment" was far too uniform, and sufficient allowance was not made for the many varying forms of the disease. The routine treatment was either to send the patient to Vichy for a course of the waters, or alkalies in some other form were prescribed, to counteract the "acidity." Of course, many derived much benefit from these measures, but in others it failed completely. In order to understand the principle of the modern treatment, the following physiological details must be understood:—The granular cells of the stomach form a substance named *propepsin*, which is secreted continuously, and in presence of the gastric acid is converted into pepsin. This pepsin is used up during digestion, and one of the most frequent disturbances of the process is due to the fact that, although the supply of propepsin is practically inexhaustible, yet the gastric acid may not be secreted in quantity sufficient to convert enough of this into pepsin. Both propepsin and acid are necessary for digestion; neither is of use by itself. If there be excess of functional work and increase of the total acidity, we are in presence of a "hyper-hydrochloric" dyspepsia. This condition is probably rare, and only occurs under special circumstances, as in ataxia and some other neuroses. Diminution in the quantity of acid, "Hypo-hydrochloric" dyspepsia, exists in the greater number of dyspeptics, the first effect of chronic disorders of digestion being to weaken the chemical operations in the stomach and to diminish the gastric acid. This diminution may even go so far as to lead to its complete disappearance, "ana-hydrochloric dyspepsia," which occurs principally in neurasthenia, and in the later stages of cachexia from cancer of the stomach, etc. As a consequence of the diminution of acid we have fermentations occurring, leading to pain, flatulence, vomiting, and the other well-known symptoms

of dyspepsia. These facts once ascertained—and methods for determining them have already been described in our pages—it naturally occurs that the correct treatment is to supply the stomach with the acid in which it is deficient. The problem is, however, by no means so simple; we must not lose sight of the other agents—mucus, rennet-ferment, duodenal secretion, etc., which may also be subject to morbid alterations. Atony or hypersthenia of the muscular tissue, leading respectively to dilatation or hyperæsthesia, give rise also to their own peculiar train of symptoms. With the increase in our knowledge, we must not shut our eyes to all these and many other conditions, which would certainly not be uniformly benefited by acid medication.

Indications for Alkaline Medication.—Until recently the plan of treatment most in vogue in France has been quite the opposite to this, and alkaline medication has been the method *par excellence: régime*, alkalies, artificial ferments, tonics, laxatives, Vichy water, etc., have benefited many. But at least half receive no benefit from this plan, and others who get temporary relief are not freed for long from their old enemy. Still there is a class of cases which will be cured by such treatment. Imperfect mastication, privation, over-work, mental anxiety, or an excess of some sort, may have been followed by flatulence, vomiting, etc., and the patient seeks advice. Here the production of acid is diminished, but the glands themselves may be healthy; and in eight cases out of ten they only require the stimulus of an alkali to make them secrete their acid in the proper quantity. In these temporary conditions alkalies are the true remedy.

Indications for Acid Medication.—There is another class of patients who say that they are rheumatic, and only digest well when there are pains in their limbs. In their own language "their rheumatism flies to the stomach." Such are the patients with *gastric catarrh* from excessive secretion of mucus, and duodenal juice. This fluid, if secreted in too great abundance, forms a coating over the gland-surfaces, interposing itself between these and the food, and thus weakening or abolishing the power of the gastric juice. No amount of alkaline medicines will be of service—they are victims of the "rheumatoid diathesis," and urgently require acid treatment. The condition has nothing to do with rheumatism properly so-called, and is produced especially in the inhabitants of damp and cold climates like our own. Its symptoms are as follows:—Uniform whiteness of the tongue, anorexia, wasting, and loss of strength; digestive troubles, with or without vomiting; alternate constipation and diarrhœa; wandering pains, rendered worse by changes of temperature; frequent coryza, pruritus, and skin-eruptions; no true rheumatic antecedents. To such cases strong mineral acids are a necessity. Others to whom it is almost equally useful are the patients with dilated atonic stomachs, which allow of fermentative changes; neurotic and anæmic girls; old men with enfeebled gastric powers; the anæmic dwellers in tropical climates. Such cases often improve remarkably under acid treatment.

Contra-indications of Acids.—The conditions in which acids are formally contra-indicated may be thus enumerated:—"Hyperchlorhydric," pure dyspepsia, irritative dyspepsia, febrile or inflammatory affections, gout and rheumatism, milk-diet.

How to Employ Acids.—As hydrochloric acid was found to be the natural acid of the stomach it was naturally thought that this would be the best to use. In practice, however, it has been found that its powers fall far short of what might be expected. Small doses are useless, and larger doses are both inconvenient and irritating. Bouchard gave as much as ʒi. of strong acid daily to his patients, diluted in a quart of water, and this was often the minimum efficient quantity *per meal*. Others tried vegetable acids,—lactic, tartaric, acetic. All these, as might be expected, did nothing but harm. *Aqua regia* is much employed in this country, and enormous doses are often taken with benefit. Some patients, however, cannot stand this, and the author prefers a compound acid prepared in the following way:—℞ Acid sulphuric (pure), 28 pts.; acid nitric (pure), 8 pts.; spt. vini. (80°), 180 pts.; by weight, to be mixed gradually in ice. This is his "Acide sulphonitrique rabelisé." It should be prepared long before required for use, in fact the older the better. No violent reaction should be allowed to occur during its preparation, and the product when ready for use will contain sulphovinic acid, and a small quantity of nitric ether, which gives it a most pleasant odour. The dose is about twenty drops, after meals, given in water, wine, or beer. According to the author no acid gives better results than this, which agrees well whenever acids are indicated.

THE USE OF SOLUTIONS OF CORROSIVE SUBLIMATE.

(*Medical Press*, p. 231, March, 1891.)

Dr. Ahe has published some observations to the effect that the antiseptic and germicidal effects of the above solution are markedly enhanced by employing them at a temperature of a 100° F. and upwards. For instance, the effect of a one in ten or twenty thousand of the salt at this temperature is superior as a bactericide to a cold solution of one in five hundred. This is a fact of some importance, for the weaker the solution that can be employed with the assurance of obtaining the desired antiseptic effects, the better for the patient, seeing that the caustic action of the stronger preparations is undesirable, because injurious to the tissues. This is particularly the case in operations on serious cavities, such as the pleura and peritoneum.

"KREAT."

By Dr. Yeates Hunter. (*Med. Press*, p. 233, March 4.)

The author calls the attention of the profession to an Indian remedy, called "Kreat," prepared in England under the name of "Halvioa." It is recognised in India as a substitute for quinine in those numerous cases of malarial fever when the latter drug is ill borne. The natives of India attribute almost miraculous properties to the plant as a restorative and tonic. It is a pure bitter with no astringency and that it does not confine the bowls, and it promotes secretion of bile. Being mildly laxative, it is of great service in dyspepsia, accompanied with costiveness. Many medical officers in the East prefer it to quinine, and striking evidence of its nature in the malaise set up by malaria has been afforded by the profession at home. Indigestion and nervous exhaustion are said to derive much benefit from its use.

CALOMEL IN BILIARY COLIC AND JAUNDICE (CATARRHAL).

Dr. Zaccharjine, Professor of Clinical Medicine at Moscow, uses calomel in these complaints when they do not yield to the ordinary forms of treatment. It is administered in the following manner:—Three-quarters of a grain every hour for four or five doses, and then every two hours, until the appearance of loose green characteristic stools. Generally twelve doses are sufficient; if not, one teaspoonful of castor oil is ordered to be taken after the last dose. After each dose of calomel, and for several days afterwards, the patient uses a gargle of chlorate of potash. Under the influence of this treatment the pains cease, and the urine becomes clearer. Occasionally this improvement is but temporary, and a relapse occurs. In these cases Dr. Zaccharjine does not hesitate to repeat the above treatment, if necessary, even several times. Alkaline waters must not be drunk by the patient during this course of treatment, which is only contra-indicated in cases of profuse diarrhœa or much weakness.

CURE OF HÆMORRHOIDS WITH CHRYSAROBINE.

(*Giornale Internazionale delle Scienze Medich.* Fasc. 7, 1891.)

Kossubudski has used with success, in a great number of cases, the remedy proposed by Unna. Where the hæmorrhoidal tumours are external, he used chrysarobine after the following recipe:—Pulv. chrysarobinæ, 80 centigr.; iodoformi, 30 centigr.; extract belladonnæ, 60 centigr.; vaseline, 25 grammes; fiat unguentum ad usum externum. For internal piles he used the following as a supposition:—Pulv. chrysarobinæ, 8 centigr.; iodoformi, 2 centigr.; extract belladonnæ, 1 centigr.; butyrci cacao, 2 centigr. Dr. Kossubudski found that in three or four days the pain and loss of blood ceased, and in almost all the cases treated the cure was complete in two or three months.

CHRYSAROBINE IN TINEA TONSURANS.

Doctor Amadeo Mareanelli, of Pisa, has made a careful trial of chrysarobine in this disease, as recommended by Unna, but while he obtained an occasional success, the results on the whole are not encouraging. He thinks it may be tried where other remedies fail. Unna's description is:—Chrysarobinæ, 5; acidi salicylici, 2; ichthyol, 5; ung. simp., 100. Where too great irritation followed, he used a soothing ointment of ichthyol, 5 per cent., and of salicylic acid, 2½ to the thousand.

THE COMPARATIVE VALUE OF THE VARIOUS CHLORAL COMPOUNDS.

By M. Bardet.

(*Semaine Médicale*, February 18, 1891.)

On comparing the different chloral derivatives—chloral, butyl-chloral, chloralamide, chloralimide—it will be seen that they all have a similar action. The main point of difference is that some are much better borne by the alimentary canal. Chloral itself presents the great inconvenience of easily causing phenomena of gastric intolerance. Another class of compounds is represented by such bodies as chloral-antipyrin (hypnal). This body is decomposed in the alimentary canal into its two constituents, and it is curious to notice that the action of a given dose is more powerful than that of double the dose of either constituent. It is difficult to find an explanation of this phenomenon, but a parallel instance may be quoted in the case of combinations of certain antiseptics. Hypnal is much better borne than uncombined chloral.

ON CHLORALANTIPYRIN.

By Dr. Germain Sée.

(*Therapeutic Gazette*, February, 1891.)

Hydrate of chloral combines with antipyrin to form two well-defined compounds, one the so-called monochloralantipyrin, containing equal numbers of molecules of each, and the other, bichloralantipyrin, containing two molecules of chloral to one of antipyrin. Dr. Sée has made a careful physiological study of these two bodies. He has found that they both possess an action similar to that of chloral, but less depressing on the heart and vessels. The symptoms following intravenous injection of either body are—hypnosis, with anæsthesia, or if a toxic dose be employed (15 gr. for every 2 lbs. of body-weight) death ensues from arrest, first, of respiration, and, lastly, of the heart. Convulsions similar to those produced by antipyrin are never observed, and the heart finally stops in diastole. As regards therapeutic effects, Dr. Sée arrives at conclusions somewhat opposed to those of Bardet. They are as follows:—(1) Both bodies, in doses of 45 gr., act as hypnotics comparable to chloral. (2) They have no paralgesic effect. (3) They should not be given in cardiac cases, especially if there be failure of compensation. (4) In aortic disease, if compensation be complete, they may be used with advantage. (5) They have no action in dyspnœa, whether cardiac or pulmonary in origin. (6) They may in some cases produce slight diuresis. (7) They are almost as irritating to the digestive tract as chloral. (8) From their depressant action on heart and vessels, they must be considered far inferior to sulphonal and the other hypnotics of the chloral series, such as chloralamide and chloralimide. These results are thus in accordance with those of Dr. Quinquaud published some months back.

TREATMENT OF THE NIGHT-SWEATS OF PHTHISIS.

By Dr. H. Huchard.

(*Rev. Gén de Clin. et de Thérap.* Feb. 4, 1891.)

Many medicaments have been tried for the relief of the sweating of phthisical patients. Among these may be mentioned lead acetate, tannin, phosphate of lime, ergot, atropine, and muscarine. Of these the two first are unreliable, and are seldom used, and probably atropine sulphate is the most valuable (½ to 1 milligramme at night). Phosphate of lime should be given in large doses (ʒi.—ʒii. daily) to produce anhidrotic effects, and even in these doses

it has several times failed. Ergot (gr. xv.—xxii. of the powder at night) is much more reliable. When the sweats coexist with more or less marked fever, the author recommends the use of quinine combined with ergot (℞ Quinæ sulph. gr. xvi.; pulv. ergotæ ʒss. Divide into four cachets—two or three to be taken daily). This formula is specially valuable in phthisis with hæmoptysis. Lastly, powdered agaric is an excellent remedy, not equal to atropine, but perfectly harmless, and never causing derangement of digestion. It may well be combined with tannin or belladonna, given in doses of three or four grains.

The same writer speaks very highly of antipyrin in the initial fever of tuberculous patients. The older drugs, quinine, tartar emetic, salicylic acid, all fail, or have but slight effect. It is specially in this *initial* fever that antipyrin is of great service. One must, however, distinguish between an *analgesic* and an *antipyretic* dose of the drug. To obtain the former effect, one would give a large dose (say, gr. xv.—gr. xxx.) in a short time, but this must not be done if its best action as an antipyretic is desired. It is well for this purpose to use constantly decreasing doses (say, gr. xvi.—xii.—viii.), taking care to divide them so that at no time during the twenty-four hours is the patient not under the influence of the drug. Used in this way, Huchard declares that antipyrine seems to have a *special* action on the tuberculous lesion, and to greatly retard or to arrest its progress.

TREATMENT OF MENINGITIS.

By Dr. Jas. Barr. (*Therap. Gazette*, Feb., 1891.)

Although the general principles laid down in this communication may be applied to all forms of meningitis, the remarks which follow refer chiefly to cases of simple meningitis; the tubercular form of the disease is generally fatal, whatever treatment be adopted, and pachymeningitis externa is excluded as being especially within the domain of the surgeon. During the last few years, the author has had under his care thirteen cases of simple meningitis, with only one death. As a result of this experience, the following treatment is recommended:—(1) Make an early and accurate diagnosis. The disease is liable to be mistaken for typhoid, which may cause grave errors in treatment. (2) Avoid all causes of reflex disturbance. Keep the patient in a darkened room, and on a water-bed, if possible. The room should be well ventilated, and kept at a uniform temperature of 60° F. (3) Adopt prompt antipyretic measures; especially valuable are Leiter's tubes to the shaven scalp, sometimes combined with immersion of the body in water at 90—95° F. Antipyretic drugs are not to be recommended as a routine treatment. (4) If there be much vascular excitement, use vinum antimoniale, and, in the early stage, a fly-blister to the nape of the neck may be useful. (5) Keep the bowels open throughout the illness; probably, calomel is the best drug to employ. The vomiting is usually of cerebral origin, and direct treatment applied to the stomach will probably fail. Hiccough occurring at a later stage is best relieved by morphine hypodermically. (6) To relieve the cerebral excitement, sleeplessness, and general restlessness, no drug is equal to opium very freely administered. Morphine may be preferred in some cases; but whichever is used, there must be no timidity in its employment. (7) If there be convulsions, inhalations of chloroform will prove efficacious. (8) Bromides, iodides, and such drugs as chloral, urethaine, sulphonal, etc., are not to be recommended. If, however, there be suspicion of a syphilitic basis, the use of potassium iodide, or some form of mercury, may not be amiss. (9) In basilar meningitis, with tendency to bulbar paralysis, give atropine in frequent small doses. (10) Diet must be of the blandest description, and should consist chiefly of milk, farinaceous foods, and butter. Alcohol in every form is to be avoided. The paper concludes with full notes of seven cases treated on these principles.

SPERMIN IN LOCOMOTOR ATAXY AND HYSTERIA.

By Dr. F. I. Bartelink. (*Proceedings of the Tambov Medical Society*, Nos. 9, 10, & 11, 1890, p. 250.)

At a meeting of the said Society Dr. Bartelink has related three cases, in which he tried subcutaneous injections of Poehl's spermin. In one of the cases, referring to a tabetic gentleman with inco-ordination, paralyses, and cutaneous anæsthesia, the injection was rapidly followed by an increase of manual muscular strength (amounting to 15 kilogrammes), acceleration of the pulse, and restoration of cutaneous sensibility, the patient becoming able to freely run about in a dark room. In twenty-four hours, however, the amelioration disappeared altogether. No further injections were made. In another tabetic man, four injections failed to effect anything beyond a slight improvement of micturition. The third patient was a hysterical woman, suffering from ovarialgia, intractable vomiting, and sleeplessness. The first dose brought about some subjective amelioration (improvement of sleep, etc.). A second one increased ovarian pains. No objective changes could be noticed. The aggravation of ovarialgia is attributed by the author to spermin, inducing pelvic congestion, which supposition is confirmed by Dr. P. M. Krasnikoff, who tried spermin in an old lady with uterine fibromyoma. An uterine hæmorrhage set in shortly after the injection, the patient having had no floodings since 1879. Dr. A. F. Dobroff noticed improvement of vision in a hemiplegic man, who had received five injections. Dr. M. P. Jakovleff came to the conclusion that Pohl's spermin was closely allied to castoreum, musk, and such-like substances, belonging to the group of stimulating remedies.

THE TREATMENT OF TUBERCULOSIS OF THE LUNG AND PLEURA BY HYPODERMIC INJECTION OF GUAIACOL AND IODOFORM.

By Dr. Picot. (*Semaine Médicale*, March 4, 1891.)

Dr. Picot records his experience of the treatment of tubercular disease of the lungs and pleura by a method which he has employed for two months at the Hôpital Saint-André, Bordeaux. This method consists in injecting hypodermically a solution containing the active principle of creosote (guaïacol) and iodoform. After many experiments, he succeeded in making a clear solution of these substances in sterilised oil and vaseline. Each centimètre of the solution contains ·01 centigrammes of iodoform and ·05 centigrammes of gaïacol. The seat chosen for the injection was the supra-spinous fossa. The injections produced no local inconvenience. The quantity injected varied

from one to three cubic centimètres, and even with the latter quantity the most that was noticed was some temporary swelling in the supra-spinous region. The injections were followed by no general reaction, no gastric disturbance, and no increase in fever. In certain patients, about half-an-hour after the injection, a profuse sweat broke out over the body, which lasted an hour and a-half, and on its disappearance the patients usually felt better, and the temperature fell half a degree to a degree. Twenty-five patients in all have up to the present been subjected to the treatment. Of these, three were advanced cases, in a very bad condition, and died. The fever in these cases remained uninfluenced. In two of the three cases there was a very notable diminution in the amount of the sputa, but bacilli continued to be found. The autopsies on these cases established some very important facts. In the first place there was no sign of congestion having been produced around the old tubercular foci, and no sign of fresh crops of tubercles. The cavities contained no casein, nor even fluid, matter. A sort of drying process seemed to have taken place in the cavities. In one case there was ulceration of the intestine, and in this case the ulcers, in place of being covered, as is usual, with caseous detritus, presented a reddish colour; the edges were even, and seemed drawn towards the centre of the ulcers. The remaining twenty-two cases were all undoubtedly cases of confirmed tuberculosis, which had reached at least the second stage, as demonstrated by stethoscopic signs, and the presence of bacilli in the sputum. The results in many of them were most encouraging. The general health improved markedly. There was great diminution, on complete cessation of the cough and expectoration, and the fever and night-sweats disappeared. The physical signs also underwent marked change for the better. In his thirteen years' experience as professor of clinical medicine at Bordeaux, Dr. Picot cannot point to any such benefit from other methods of treatment. He does not maintain that any of his cases have been cured. On this point he holds that the greatest reserve is necessary, and, indeed, he has always taught that before a complete cure can be pronounced in pulmonary tuberculosis, the patient must be followed for five or six years, so great is the danger of relapse. The results of this treatment, however, which have hitherto been obtained are of an encouraging nature, and give hope that permanent benefit may be conferred by its means.

A CASE OF POISONING BY ANTIPYRIN.

By Dr. H. M. Biggs. (*Rev. Gen. de Clin. et de Thérap.* Feb. 4, 1891.)

A patient, with acute tonsillitis and high temperature, took 8 gr. of antipyrin every four hours during one day. Some hours after taking the last dose the urine became dark and blackish, as after the ingestion of preparation of phenol; it contained albumin blood-corpuscles. This colouration persisted for two or three days. The writer adds that the patient had no previous renal disease; he therefore concludes that the phenomenon was due to the toxic action of the antipyrin. He would be very cautious in giving antipyrin to patients with nephritis, or who show renal symptoms in the course of pneumonia or typhoid fever. This case proves, if further proof were wanting, the danger of employing antipyrin blindly.

STATISTICS OF KOCH'S TREATMENT.

By Dr. Weber (Halle). (*Lyon Médical*, Feb. 8, 1891.)

This author has had experience with fifty-five patients submitted to Koch's treatment. Out of these there have been two deaths. He has presented to the Berlin Medical Society his "statistics," which are as follow:—

Body-weight—after three weeks: increased in 16; diminished in 28.

Hectic fever—diminished in 5; unaltered in the others.

Night-sweats—diminished in 11; increased in 3.

Weakness—less in 10; greater in 10.

Physical signs—improved in 4; advancing in 7.

Dyspnœa—less in 11; increased in 15.

Cough—improved in 14; increased in 15.

Expectoration—diminished in 18; increased in 12.

Laryngeal lesions—improved in 6; advancing in 4.

Such a method of reporting may be useful, but of course gives no indications as to the conditions of the individual cases, without which one cannot possibly either condemn or advocate the treatment. Dr. Weber does not, however, seem, on the whole, to have been very successful, as whatever good may have accrued to some of his patients, he has to record two deaths, and many instances in which symptoms were either aggravated or uninfluenced. Under these circumstances, he cannot regard "tuberculine" as a specific.

NEURASTHENIA: ITS PROGNOSIS, DIAGNOSIS, AND TREATMENT.

(*L'Union Médicale*, February 5, 1891.)

The prognosis of neurasthenia is good, for if it cannot be cured, it may at least be greatly relieved. It may, however, lead to suicide or predispose to tubercle or acute disease by lessening the resisting power of the organism. Heredity makes the prognosis more serious. The symptoms may sometimes suggest organic disease, such as general paralysis, cerebral syphilis, tumour of the brain, or locomotor ataxia in its pre-ataxic stage. The whole picture of the disease must be looked at, not one individual symptom. The reflexes are usually exaggerated in neurasthenia. Hysteria may be confounded with it, but only the intermediate forms. In the treatment of neurasthenia the moral influence of the physician is most important. The Weir Mitchell treatment is by far the most efficacious. *Isolation* from two to three months, with a reliable nurse, is indispensable, except in a few cases which result from over-work and over-worry. These may be treated by sending the patients into the country with their friends. In all bad cases *rest* should be absolute for the first few weeks. Massage will counteract the derangement of appetite and constipation, which this inactivity is apt to induce. Rest does not, however, suit all cases, especially those of cerebral neurasthenia, unless vertigo compel it. Pronounced anæmia is an indication for rest, and in cases of spinal neurasthenia it is necessary. Absolute repose to the mental faculties is needed only in cerebral neurasthenia. *Massage* takes the place of the usual functions of the muscles. It is important to apply it to the abdomen and back. *Electricity* has much the same uses as massage. Applied in the evening, it may induce sleep better than hypnotics. Massage and electricity so improve the digestive functions that *over-feeding* may be tolerated.

If the patient be anæmic and well-nourished, it is well to begin with milk only—two litres in the day. The patient is weighed daily, and the amount of milk gradually lessened until there is a perceptible loss of weight. Then the diet is gradually improved, until the patient takes three full meals in the day as well as the two litres of milk. Malt-extract may be added. If urates appear in any quantity in the urine, it shows the over-feeding is being carried too far. Iron may be given for anæmia, aloes for constipation, bromides only if there be excitement, and hypnotics should be avoided as far as possible. The Weir Mitchell treatment is indicated in all serious and inveterate forms of the disease. It is not admissible in acute or subacute disease of the uterus or appendages. Hydropathic treatment may be useful—the wet sheet or baths. The bath at 30° C. may be used in marked depression—the tepid bath when excitement is present. A sojourn in mountain districts, from six to eight weeks, may be beneficial. Treatment by hypnotic suggestion is better avoided.

ON THE THERAPEUTIC USES OF TRICHLORACETIC ACID.

(By Dr. Alfred I. Lanz. (*Meditzinskoïe Obozreniè*, No. 1, 1891, p. 67).

Trichloracetic acid, discovered by Dumas in 1839, was successfully employed by Urner (1868), and, later on, Sigmund, for removing ordinary warts, corns, and acuminated and broad condylomata. Afterwards the caustic remedy was nearly forgotten, until Dr. S. F. von Stein, of Moscow, emphatically drew attention to excellent services obtained from the acid in certain affections of the nose, pharynx, larynx, gum and ear. (*Vide* the *Journal of Laryngology and Rhinology*, June, 1890, p. 246.) At present, Dr. Lanz, of Moscow, states that the perusal of Dr. von Stein's paper has induced him to try the remedy in a large number of cases of various venereal and cutaneous affections, and that he has similarly observed very satisfactory results. To judge from his experience, the use of drichloracetic acid is indicated in the following diseases:—(1) *Papillomata*—more especially in such cases where the patient refuses to undergo any operative treatment. The best mode of the application consists in simply placing (by means of a probe) a small crystal of the acid on the desirable area. Immediately after this there forms a white, smooth, dry, and firmly adherent scurf, which falls off within a few days, leaving a rapidly healing ulcer. Small-sized condylomata disappear after a single application, but larger ones may require repeated cauterisations. [The author was able to remove in such way not only condylomata of the size of a nut, but even papillomatous rings around the anal or vaginal orifice in prostitutes.] Pain is said to be quite trifling, and can be totally prevented by previously painting the parts with cocaine solution. (2) *Ordinary warts.* They can be rapidly destroyed by the acid (similarly in substance), and that "almost without any pain," which is especially important in children's cases. (3) *Vascular nævi.* In a case of nasal nævus the new growth disappeared after four applications (of crystalline acid), repeated once weekly, an almost imperceptible superficial scar remaining at the site. (4) *Pigment patches.* In a case of pigmentation, remaining after a syphilitic papular rash, the patches could be quickly removed by a few paintings with a strong solution of the acid. (5) *Indolent ulcers* may sometimes heal even after a single application. (6) *Obstinate gleet* (eight cases), in which cauterisations with a 20-per-cent. solution of the substance afford an excellent adjuvant means. They cause a sharp local pain, which, however, always ceases very quickly, and, if necessary, can be easily obviated by a preliminary cocainisation. As to consecutive irritative phenomena, even after cauterisations of the prostatic portion of the urethra, they prove to be by far milder than after a similar use of much weaker solutions of nitrate of silver. Blood-staining of urine on micturition occurs but in exceptional cases. At all events, the cauterisation should not be repeated before a complete subsidence of reactive phenomena, caused by a preceding application. The procedure, as practised by the author, is this. Having introduced the endoscope to the required depth, he wipes out (by means of a cotton wool plug) urine, mucus, pus, etc., accumulating about the anterior orifice of the instrument, and then touches the diseased area with a cotton-wool plug moistened with the solution; any superfluous fluid is quickly removed by means of a dry wool. At the first *séance*, it is advisable to limit the cauterisation to small-sized or circumscribed areas. (7) *Urethritis papillomatous.* In a case of the kind, referring to a gentleman with intractable gleet of three years' standing, a couple of cauterisations with the acid proved sufficient to destroy the new growths and to secure a rapid and complete recovery.

THE ANTISEPTIC TREATMENT OF PHTHISIS.

By Dr. Vincent Harris. (*St. Bartholomew's Hospital Reports*, 1890.)

Ever since the discovery by Koch of the tubercle bacillus efforts have been made to treat phthisis antiseptically. All these efforts may be summarised as follows:—(1) Attempts to kill the bacillus in the body. (2) Attempts to increase the resistant power of the body by improving its nutrition, and thus aiding the cell in its combat with the bacillus. The results of the second method are seen in the effects of change of climate or surroundings, the beneficial action of cod-liver oil, etc. Unfortunately, however, this means is rarely completely successful, and the hopes of all have principally rested on the possibility of finding some drug or other substance which will attack the bacillus in its stronghold. Whether Koch's "tuberculine" will have this or a similar action—it is stated by Koch himself not to kill the bacillus—time will alone show. For the present our minds must be kept open to the results of any form of treatment which holds out a chance of success. Such is the "instillation" treatment as practised by Dr. Harris. Impressed with the difficulty of reaching the bacillus by any drug given by the mouth, he proposed that certain volatile substances should be given over long periods by means of the oro-nasal inhaler. The sponge of this instrument was charged with various antiseptics, of which the most favoured was iodoform, and patients were made to wear the inhaler during certain hours of each day. The first analysis of cases thus treated (*St. Barts. Hosp. Rep.*, 1889) having been encouraging, it was decided to give the method a more extensive trial, and Dr. Harris, from an experience of about 150 in-patients and several out-patients at the Victoria Park Hospital, is of opinion that the method is of great value. Although a great number of patients improve as a result of residence in hospital, without any definite treatment, the improvement under the "in-

stillation" method is much more general than can be accounted for in this manner. It seems probable that the antiseptic, entering into the alveoli of the lungs, is able to fight the bacillus on its own territory in a far more concentrated form than if it were given by the mouth. It is also expressly stated that patients, the advanced state of whose disease precludes all possibility of the use of Koch's remedy, may derive much benefit from the inhalations. Dr. Harris has not, however, confined his attention to this one method of treatment; he has tried also the effect of the ingestion of various other substances of reputed antiseptic power—helenine, tar, benzoyl-guïacol, mercuric chloride, and periodate crystals (Weaver). From his results obtained with helenine and benzoyl-guïacol one can argue little, as the experience was admittedly too limited. Both have been highly recommended by certain observers. With tar good results were obtained, especially as concerns diminution of sputum and bronchitis. Mercuric chloride was found to be unfit for extensive trial, owing to the great disturbance of digestion caused by it. The "periodate crystals" were recommended by Dr. Klein as a most powerful disinfectant, but owing to their very slight solubility some difficulty is experienced in exact dosage. It would not, however, seem from the reported cases that this substance possesses any particular advantage in the treatment of phthisis. Dr. Harris also gives an epitome of results obtained by Dr. Roussel from the injection, *hypodermically*, of various volatile essences. This treatment has been fully described in our pages, and it is to be hoped that soon English observers will have the opportunity of themselves testing the method. It would *a priori* appear that the subcutaneous method of administration would be far the most likely whereby to obtain the effects of drugs in concentrated form. Whether this is desirable in the case of tuberculosis the future alone will show.

BROWN-SEQUARD'S FLUID IN PULMONARY TUBERCULOSIS, NERVOUS AFFECTIONS, AND SENILE MARASMUS.

By Dr. Petr P. Viktoroff. (*Vratch*, No. 3, 1891, p. 81.)

At the Fourth General Meeting of Russian Medical Men at Moscow, Dr. Viktoroff has read an able paper on Brown-Séquard's injections, based on fifty cases from his own practice. He used testicular emulsion from guinea-pigs, rabbits, dogs, and, in one case, cocks, the injection being invariably made under strictest antiseptic and aseptic precautions. The following affections were treated after the method:—Hemiplegia, chronic myelitis, tabes dorsalis, neurasthenia, diabetes mellitus, renal colics, morphinismus, suppurative cystitis, hypertrophia of the prostate, paresis of the bladder, nocturnal enuresis, senile marasmus, and pulmonary tuberculosis. The essential outcome of the clinical experiments may be summarised as follows:—(1) There can be no doubt whatever that Brown-Séquard's liquid is endowed with a powerful stimulating action on the central nerve system. (2) Contrary to Brown-Séquard's original supposition, the spermatic emulsion acts identically in men and women. (3) A local reaction (inflammatory irritation), when occurring in spite of all precautions, is dependent upon the patient's individual predisposition, some peculiarities of his skin, and his age. Syphilis, scrofula, and excessively developed subcutaneous cellular tissue appear to favour a more or less intense "reactivity" of the kind, while in aged persons the reaction is commonly most mild. (4) A constitutional reaction (fever) seems to depend mainly upon the variety of the testicular fluid employed. A guinea-pig's emulsion gives rise to febrile movements but very seldom, while a rabbit's liquid, on the contrary, causes fever very frequently. In the latter case the phenomenon seems to stand in some connection with a comparatively abundant quantity of blood present in the animal's spermatic veins. (5) A stimulating action of Brown-Séquard's fluid on the spinal cord is indicated by the appearance of general excitement, muscular restlessness, tendency to moving about, slight trismus, and increased musculo cutaneous and tendon reflexes. (6) Best therapeutical results are obtained in neurasthenic patients and old people. (7) In tabes the effects are more favourable than in myelitis, the fact, seemingly, pointing out that the fluid acts mainly on the anterior or motor division of the spinal axis, which remains anatomically intact in the former disease, but is structurally altered in myelitic subjects. (8) Certain beneficial effects, observed in cases of pulmonary tuberculosis, should be attributed to the emulsion exercising a stimulating action on the patient's appetite, stomach, and bowels, and thus raising his general nutrition. (9) In pulmonary tuberculosis a rabbit's emulsion appears to be more especially indicated, since the fever, induced by the latter (*vide supra*), seems to intensify the beneficial effect of the injections. (10) In chronic asthenic forms of the pulmonary disease, as well as in tuberculosis of older persons, Brown-Séquard's fluid proves to be more effective than in acute cases and in younger subjects. (11) An admixture to the fluid of a one-per-cent. aqueous solution of iodide of potassium favours a better absorption of the substance, and, apparently, increases its power of dispelling tumours (in cases of enlargement of the prostate, swelling of the epididymis, etc.). The addition is also useful in cases of syphilis or scrofula. (12) During the spring season the injections give more successful results than in the autumn time. (13) In an overwhelming majority of successful cases, these or those beneficial effects become apparent after the first two or three injections, lasting sometimes (especially in elderly people) for one or two months. (14) Spermin is by no means identical with a crude testicular fluid. The question, whether it constitutes the only active principle of the emulsion, remains yet open.

ICHTHYOL.

By Dr. A. Mueller (of Yackandandah, Victoria).

In this paper the writer brings the properties and uses of ichthyol under the notice of his Australian colleagues. The remedy was first introduced into German medical practice by Unna in 1883, and was admitted into the German Pharmacopœia. Ichthyol derives its name from the fact that the bituminous material from which it is obtained by distillation contains large quantities of fossil fish. The raw oil is treated with concentrated sulphuric acid, and the mixture neutralised by an alkali, an ichthyolate being formed. All these preparations are soluble in water, although some are cloudy and have a slight resinous sediment. The therapeutic effects of ichthyol must be ascribed to a particularly close combination of

sulphur and carbon, both of which elements are introduced into the system in a pure, and at the same time soluble, form. The chief physiological action is the contraction of congested and abnormally dilated capillaries. It is this action on congested capillaries that constitutes the chief therapeutic value of this remedy. After this statement it will be easily understood that ichthyol is a capital remedy in skin-diseases, and, indeed, its applicability extends over the whole range of them, from simple eczema and roseola up to psoriasis and lepra. It combines excellently with simple ointment, lard, and especially with lanolin, in proportions varying from five up to twenty per cent. At the same time, it must be given internally in pill, or capsule, to be discontinued should diarrhœa occur, as happens in a certain number of cases. Its internal administration is attended with increase of appetite, and the patient gains in weight. When used externally, whether in the form of lotion or of ointment, its resinous ingredients render the skin somewhat sticky, and it is, therefore, necessary to wash the parts every night with soap and hot water. The writer next gives details of several cases in his own practice where the use of ichthyol has been attended with marked benefit. One was a case of eczema of both legs, dependent on varicose veins and attended with severe inflammation and pain. Relief followed the use of a fifteen-per-cent. lotion for a few days, at the end of which time a ten-per-cent. ointment was substituted. A month later the patient reported himself cured. Two cases of *pruritus vulvæ* were treated successfully by a five-per-cent. ointment in combination with large doses internally. Ichthyol ointment forms a valuable application in the treatment of burns and scalds. It does not prevent blistering, and is rather severe when applied to a raw surface. However, the dressings do not require frequent renewal, and the process of repair of the new skin is rapid, while any pain caused by the application is easily relieved by the addition of a little pulv. opii. In all congestions of the skin and subcutaneous tissues the good effects of this remedy are soon apparent. This is especially evident in cases of erysipelas, whether of the simple or the traumatic forms, as well as in deep cellulitis. Strong lotions and ointments containing from 25 to 50 per cent. of the pure ichthyol have proved of service in the treatment of carbuncle. It is in affections of the gouty and rheumatic type, however, that the writer seems to anticipate the most pronounced success. A 25-per-cent. ointment is said to relieve the pain of an inflamed joint in acute rheumatism. It is also useful in chronic rheumatism, and in that most intractable of diseases— arthritis deformans.

THE THERAPEUTIC VALUE OF EUGENIA JAMBOLANA IN DIABETES MELLITUS.

By Dr. Villy. (*Bull Gén. de Thér.* Jan. 30, 1891.)

The treatment of diabetes by drugs has, unfortunately, up to the present been very unsatisfactory. Whatever means have been employed, unless dieting has formed a part of them, failure has resulted. In certain cases, it is true, a temporary diminution in the quantity of sugar excreted has followed the use of some drugs, but this improvement has never been permanent, all symptoms returning with the least dietetic mistake. In this country, and in America, a certain amount of reputation has been gained for an Indian drug, jambul, derived from *Eugenia Jambolana*. Although it is now several years since the drug was first used, there is no agreement as to the results obtained, and jambul, like all new drugs, has had its enthusiasts as well as its detractors. Nearly all who have studied the question are agreed that the only active part of the plant is the seed, the other parts producing only a negative or uncertain effect. The dose employed has been very varying, some obtaining good results from ʒiss. of the powdered seeds, and others finding as much as ʒss. per diem to be ineffectual in arresting the glycosuria. As regards toxic effects, Dr. Mahomed (*Practitioner*, July, 1888) noted in one patient a marked depression, but this may have only been a coincidence; others have not observed any untoward effects, even from very large doses, and in India the fresh fruit seems to be eaten with impunity. Further, a quantity equal to the actual weight of the animal has been given to a rabbit in the twenty-four hours without the least disturbance of nutrition.

In 1887, Scott (*British and Colonial Druggist*) published some experiments in which he found that the addition of jambul to a mixture of starch-paste and malt very considerably diminished the quantity of sugar produced, and his results were confirmed by similar observations made by Balfour and Woodhead. The present author has undertaken to reinvestigate this action, as well as the effects produced by its administration to patients. His results, as regards any anti-fermentative action, are directly opposed to those just quoted, for he found that saccharine fermentation in mixtures of starch and yeast, under exactly the same conditions as those observed by Scott, was even accelerated by the presence of jambul. As for its effects on diabetic patients, his conclusions may be summarised as follows:—(1) Jambul should not be used in diabetes if an ordinary diet is persisted in; under such circumstances, both glycosuria and formation of urea increase instead of diminishing. (2) In slight cases, with or without increased nitrogenous excretion, jambul in moderate doses may be employed with benefit, *always, however, insisting on a regulated diet.* This latter point is absolutely necessary, and, under these conditions the sugar will soon, in many instances, disappear, to return, however, on discontinuing the drug. It is to be feared, too, that tolerance will soon be set up, when the effect will, of course, be lost. (3) In severe cases the effect is entirely negative. As soon as a regulated diet appears powerless, all adjuvants—jambul among the number—are unavailing. These results apply, of course, only to the effects of the dried and powdered seeds; whether the fresh plant is more efficacious, experiments in India will alone show. The author is, however, of opinion that the drug, even as we obtain it here, is worthy of further trial.

While on this subject, it may be well to mention the experience of some others with jambul. Dr. Bametvala (*Ther. Gaz.* 1888) used it in several cases with considerable benefit, giving 5 gr. of the powdered berries every few hours. Saundby, in the *Lancet* (Oct. 1887), reports its action in eight cases. In five of these the sugar was increased, and in only three was a diminution observed. Fenwick (*Lancet*, Oct. 8, 1887) employed it with benefit in several cases of saccharine diabetes, but found it of no avail in diabetes insipidus. Cauldwell (*Med. Age*, 1886) used it in four cases, and three of these were much benefited. All these results would seem to show that the drug deserves a more extended trial, but before

results of any value can be obtained it will always be necessary to observe just the effects of simple regulated diet, and to mention in every report the condition of feeding under which the drug is administered. Only then will a true knowledge of its value be obtained.

THE TREATMENT OF NON-OPERABLE MALIGNANT NEOPLASMS.

By von Mosetig and others. (*Weiner Mediz. Wochen.*, No. 6, 1891.)

Prof. von Mosetig alluded at the Medical Association Meeting in Vienna to his attempts to treat with erysipelas cocci (Bruns) malignant neoplasms, which can be reached but not operated on, because of their extent. Starting from the view that the low biological potency of the tumours cannot resist increased vital processes, he sought a means by which, through local application, to cause increased change of substance. This he found, and injected it into and round a small nodule of a marked mammary carcinoma. In a few days the little knot had completely disappeared. Though often successful, this experiment failed in long-standing and larger neoplasms. In local tuberculosis, especially cold abscesses, however, it proved unfailing. He intends to publish particulars of this medium, when the experiments with Koch's lymph, which it resembles in its effects, shall have subsided a little. Another consideration led von Mosetig, already in 1883, to treat non-operable tumours with *pigments*. As the growth of neoplasms depends on the vitality of the cell nuclei, which greedily absorb pigments, he tried to stain neoplasms in the living subject, choosing for that purpose anilinum trichloratum. He injected one gramme of a one-per-cent. solution of the pigment into a large ulcerating round-celled sarcoma in the groin. An hour after injection, the skin, particularly of the face and hands, was dark-blue, but on the next day the colour had completely disappeared. Bluish serum was copiously discharged from the neoplasms. The injections being continued, the tumour grew smaller, and was in eight weeks reduced to a hard knot of the size of a nut, the ulcerated part being solidly cicatrised. An experimental injection of four grammes nearly proved fatal. A year after discharge, the patient had an attack of pneumonia, without, however, a recurrence of the sarcoma. Last year, Stilling introduced Merck's pyoktanin. Of the two preparations sold as pyoktanin, von Mosetig experimented with that called methyl-violet. The first patient was aged sixty-six years. On her coming into the hospital, in September, 1890, she appeared to be dying of starvation. On her chin was a tumour larger than a man's fist, occupying more than the anterior half of the bottom of the oral cavity, extending between the lips. A solution of methyl-violet was injected, at first in the proportion of one to five hundred of water, later 1 to 300. In all, six grammes of the fluid were injected in thirty-five times. The tumour did not burst, but shrivelled up. The whole of the neoplasm lying outside of the bone has now disappeared, and the tumour is reduced to one-third of its original size. In the case of a man, aged sixty years, a sarcoma of the size of a man's head filled the left half of the pelvic cavity, and caused difficult defæcation. Colotomy was done, and in nine days the stools were normal. The tumour now grew upwards to the level of the navel. In this case, sixteen injections of six grammes, in all, of a solution of pyoktanin 1 : 500 were made in different parts of the tumour, which has been reduced to one-half of its original size. The results of this "staining treatment" do not amount to a cure, but the improvement in these cases, which were of a noli-me-tangere kind, was well marked, and not without giving hopes of complete healing. For the patient the method is not at all disagreeable. Prof. v. Reuss said he had latterly had better results from the use of pyoktanin in ophthalmic cases. Prof. Lang has used methyl-violet in gonorrhœa and cystitis locally, and when the process approaches the pelvis of the kidney, even internally. Patients bear large doses, and it seems worth while making further trials, especially in pyelitis. In internal use, the urine is coloured, showing that the diseased mucous membrane is washed by the preparation. Prof. Neudörfer reported that he had long used pyoktanin for bandaging wounds, and as a powder on ulcerated neoplasms. In all cases there has been improvement, but never healing. His patients, however, had been old people, between sixty and seventy.

TREATMENT OF THE PAIN OF HEPATIC COLIC.

By Dr. Ch. Eloy. (*Rev. Gén. de Clin. et de Thérap.* Feb. 11, 1891.)

The pain of hepatic colic is caused by the penetration of a gall-stone into the bile-ducts, and by its passage through them. The treatment proper to this condition is to subdue the pain and spasm; the pain increases the spasm, which, in its turn, arrests the passage of the stone. The indication, then, is to prescribe analgesics and antispasmodics. Now, the passage of a gall-stone causes two kinds of pain,—one local, concentrated at the seat of irritation, the other radiating. These diffuse pains, in great measure, mask the local irritation; they are very intense, and have been classified in many ways, according to their apparent seat. The analgesic treatment must, therefore, be both local and general.

Treatment of the radiating pains.—These are reflex in origin, and yield to measures which reduce the irritability of the higher centres. Such drugs as opium, morphine, chloroform, ether, antipyrin, and belladonna will be indicated. In most cases hypodermic injections of morphine are the most serviceable, as their action is rapid and certain—administration by mouth or rectum being slow and uncertain.

The indications for morphine are somewhat as follows:—*Urgent* in the syncopal or pseudo-anginal forms; *necessary* in prolonged or intermittent attacks; always *useful* in presence of arterio-sclerosis, cardiac lesions, or a cachectic condition of the patient, where it is well to cut short the attack as soon as possible.

The effect ought to be produced in five, ten, or fifteen minutes. It is best to use a small dose at first, repeating it if necessary, these patients being highly susceptible to morphine. Vomiting may often be more effectually prevented if a combination of morphine with atropine be used, instead of morphine alone. Here, too, one must seek to get the maximum effect from the minimum dose.

Antipyrin has been recommended as a substitute for morphine, but, even when used hypodermically, its action is often unsatisfactory and unreliable. It cannot replace morphine.

Rectal injections of laudanum, or opium, in the form of suppositories, either with or without bella-

donna, may be given. These, however, are only advisable in cases which are not urgent.

If vomiting be absent or only slight, the same drugs may be given by the mouth, enjoining at the same time absolute rest. But thus taken all these drugs have a tendency to excite nausea.

The use of inhalations of ETHER or CHLOROFORM should be confined to those cases in which morphine fails, but which are free from cardiac, vascular, or pulmonary lesions. It must be borne in mind that they are only to be used after failure of all other means.

Treatment of the local pains.—Of these pains, some are *inflammatory*, the result of prolongation of the attack. Such yield to poultices with or without laudanum, mercurial ointments, ice, etc.; these are not urgent cases. Others are *functional*, felt at the seat of obstruction, and caused by the presence or movement of the gall-stone. Here a good method of treatment is to give baths, either at once hot or rendered gradually so by the addition of boiling water. These should be repeated at short intervals. Should these be unobtainable, recourse may be had to blisters, dry cupping, or chloroform compresses to the epigastrium. An ice-bag to the same region may also be of service.

Should the local pains be prolonged and obstinate, MASSAGE may be tried. This may be highly successful if the calculus is not larger than a hazel-nut. It should be performed as follows:—Standing to the right of the patient the *masseur* should apply gentle friction from above downwards, and from without inwards. In this way the calculus may often be propelled into the intestine. The more violent method of digital compression of the gall-bladder, as recommended by Harley, is much more painful, and by no means so generally applicable; it should not be employed during the crises of pain.

M. Eloy will make the *preventive treatment* of biliary colic the subject of a future paper.

ON METHYLACETANILIDE OR EXALGINE.

BY DR. DESNOS. (*Rev. Gén. de Thérapeutique*, Feb. 15, 1891.)

EXALGINE is peculiarly interesting to French observers, being the first of the new "nervine" remedies which originated in France. This may in part serve to explain the lenient way in which the shortcomings of exalgine are treated in the present paper. Discovered in 1874 by Hoffmann, it was first prepared commercially in 1889 by Brigonnet and Naville, as a white crystalline substance, freely soluble in alcohol, only slightly soluble in water, free from taste or odour. It is said to follow the rule propounded by Dujardin-Beaumetz—that an anti-thermic action would be most developed in amido-derivatives, whilst a maximum analgesic action would be obtained from amido-derivatives, in which one of the hydrogen atoms was replaced by a fatty hydrocarbon radical, especially methyl (CH_3). Exalgine is stated to have scarcely any antipyretic or hypnotic action, but to be an analgesic of great value. The physiological effects on man are thus described by Dr. Desnos:—The action is almost purely localised to the cerebro-spinal system. The patient soon after taking the drug complains of a slight mist before the eyes, this condition usually disappearing after from five minutes to half-an-hour. In other cases patients complain of inability to maintain their balance, or that objects are whirling round them; in fact, of the most extreme vertigo, accompanied sometimes by vomiting and shivering. Others, again, may have buzzing in the ears, or headache, with drowsiness. Sometimes there are effects evidently vaso-motor in character, such as sweating, general or localised to the painful parts, or itching, extending to all the limbs, to the tongue, and affected parts; others complain of flashes of light before the eyes. These nervous effects may follow the most varying doses; four grains in one subject may have the same effect as twelve in another; and even in the same individual a dose which produces its effect on one day may fail on the next. With twelve-grain doses cyanosis may be produced, and an instance is given in which this was markedly the case, in a woman suffering from facial neuralgia. In this case it is admitted that there was marked destruction of blood-corpuscles, but no methæmoglobinæmia. Other cases may take much larger doses, for instance, 16—24 gr., without any cyanosis being observed. The drug is said to be better borne by the digestive tract than its congeners, antipyrine or antifebrine, and does not produce eruptions, like those sometimes observed with these drugs. As regards the rapid recognition of its presence in the urine, no test like those for antipyrine or salicine is known. As to dose, the author gives what Fraser would consider heroic quantities. Whereas this latter observer (*Brit. Med. Jour.*) is content with doses of ½ gr., sometimes increased to 1, 2, 3, or 4 gr., Dr. Desnos finds it necessary to use ordinarily as large doses as 4—12 gr., luckily, as a rule, without producing unpleasant symptoms.

The author concludes with a description of some cases in which the drug was used with success—neuralgias of various kinds, brachial, sciatic, facial, visceral. The lightning pains of locomotor ataxia, as well as those of rheumatism, may all disappear under its influence. As to poisoning, this term is considered inapplicable to the symptoms sometimes observed which, in the author's experience, are only of short duration, and pass off without permanent ill effects. He makes light of the cases recorded in the *British Medical Journal* by Bokenham, Lloyd-Jones, and Ainslie Johnson, and has apparently overlooked accounts of other cases which have appeared in the English journals. However this may be, until we have better evidence than is at present forthcoming as to the constant effects of even a small dose, and know how to avoid producing cyanosis, which, however slight, must be a deleterious effect, we shall do well to exercise a careful prudence in the use of exalgine.

NOTE ON THE PARALYSES IN PARKINSON'S DISEASE.

BY M. MONCORGÉ. (*Lyon Médical*, Feb. 8, 1891.)

MANY writers, following the example of Charcot, have called in question the appropriateness of the name "paralysis agitans," to describe the train of symptoms now under consideration. Disseminated sclerosis, locomotor ataxia, lead-poisoning, all present similar symptoms of paralysis and tremors. Again, the opinion, classical till recently, was that paralysis never existed in the early stages of the disease. Stiffness and slowness of movements were, it was stated, mistaken for actual diminution of muscular force; and the fact that certain patients could undoubtedly accomplish great muscular efforts, and give good

dynamometric results, gave some colour to this assertion. Paralysis, with or without atrophy, was only admitted in the last stages, as the effect of the progressive enfeeblement or of complications unconnected with the primary disease. Paralysis was not admitted apart from the final cachexia. A few, however, had not such rigid views with regard to the symptom of paralysis, and Bloch and Joffroy admit that, though the volume of the muscles is often normal, there may be exceptions.

Electrical reactions have given somewhat contradictory results; it would appear, however, that on the whole the cases showing degenerative changes in the peripheral nerves preponderate somewhat over those giving no such signs.

Bourneville was the first to demonstrate that the dynamometric force is actually diminished even at an early stage. He showed this in five patients, and found the weakness greatest on the side which showed the tremors. Others soon followed in his wake, and it would now appear that the more carefully dynamometric observations are made the more often is actual muscular weakness demonstrated. One might almost *a priori* assume its existence in cases where muscular rigidity is a marked sign. In fact it is a general law that every muscle which is the seat of a spasm or contracture loses vigour, and at the same time its electro-muscular contractility diminishes. The author proceeds to describe a case which lends support to this view. In this patient right hemiparesis with paralysis of the deltoid marked the commencement of the disease, and both signs preceded the tremors by some years. They could not, therefore, be ascribed to cachexia. Cases observed by Berlez, Charcot, Saint-Leger, and others, are also cited, which would seem to afford further confirmation.

The conclusions which terminate this interesting paper are then, as follows:—(1) Apart from cachexia, paralyses, with or without atrophy, may be observed in the later stages of Parkinson's disease. (2) Paralyses, with or without atrophy, may occur at the commencement or in the course of the disease. (3) One is justified in ascribing the paresis, paralysis, and atrophy to the disease itself, and not to extraneous complications. (4) Evidence is going more and more to show that Parkinson's disease belongs to the class of neuroses.

THE ACTION OF THE CANTHARIDINATES.

By Oscar Liebreich.

(*Berliner klin. Wochenschr.* March 2, 1891.)

Prof. Liebreich has just published an account of his new remedy against tuberculosis; what follows is a summary. The author had shown, years ago, when he discovered the use of chloral hydrate, that it is of great importance to determine the way in which the groups of atoms are arranged within an organic molecule, as only thus can we lay hold of the useful, amongst the immense number of chemical bodies at our disposal. Chloral hydrate was known for thirty-seven years before an examination of its constitution indicated its therapeutical uses. Lanolin was brought forward on different grounds, viz., biological; and "ointment-therapeutics" had not become scientific. We knew from Pasteur that yeast-cells die when the alcohol produced by them reaches the proportion of ten per cent. of the fluid; thus to destroy yeast-cells in the human body by alcohol would require an enormous quantity. This shews that the laws of the laboratory cannot be applied to the body, because other conditions obtain. Again, the products of bacteria are poisonous, and therefore we cannot make use of them in sufficient quantity to kill the bacteria, though the question is not yet absolutely settled. Treatment by attenuated cultures is still in progress.

Investigations have shown that certain bodies, injected under the skin, cause local insensibility, preceded by sharp pain; this insensibility may be called *anæthesia dolorosa*. Unlike chloral hydrate, these bodies owe their action to a physical (not a chemical) cause. On first seeing the action of Koch's fluid on lupus, it was evident that it belonged to the group of bodies called *acrids*.

Cantharides (Spanish fly) was known to Hippocrates, and Pliny mentions it. These flies were called "*diabolini*" in Italy, and "*pastilles galantes*" in France, from an idea then prevalent that they excited sexual activity, and their sale was forbidden. Greenfield, or Groeneveldt, in England, was put into jail for examining their action. In the St. Louis Hospital, in Paris, tincture of cantharides was well tried by Alphée Cazenave, who cured a case of psoriasis in two months with twenty-drop doses. But tinctures vary so much in strength that they are very dangerous. *Cantharidine* is a definite body having the composition $C_{10}H_{12}O_4$ (one of a series of substances,—cantharoxyde, cantharidinic acid, cantharic acid. Cantharidine is a very strong excitant of inflammation locally, and if absorbed largely, or given internally, it causes extreme renal hyperæmia, and the inflammation may end in contracted kidney (Aufrecht, Eliaschoff, Cornil). When just enough is given in repeated doses to kill a rabbit, Bowman's capsules hold an exudation containing no cells, and not inclined to coagulate (Hausmann); death occurring from respiratory paralysis. The process is not an ordinary inflammation; a peculiar action has occurred in the capillaries, shown by the pseudo-œdema of the lungs. Probably the capillaries have a different irritability in different parts of the body. "I have assumed that irritated capillaries permit exudation more readily than when healthy. Cantharidine may be given in such smaller doses as to leave the body unharmed, without a trace of alteration. But let us suppose some capillaries in a morbid condition, then there is the possibility that, between toxic doses and wholly innocuous doses, there may lie such doses as will act only on the morbid capillaries, and on no other, and cause an exudation of serum." Now, serum has anti-bacterial properties (Buchner, Stern). Thus modern cellular pathology does not exclude the action of fluid.

The dose begun with was one-fiftieth milligramme of cantharidinate of potash, the case being one of œsophageal tumour; the dose was gradually raised to six decimilligrammes, the highest dose that can be used without great danger of renal trouble. The best dose is between one and two decimilligrammes. After this, laryngeal diseases were tried, as being under better observation. The experiments have shown that a local effect has resulted in accordance with the hypothesis, in the above small doses, too small to affect the kidney. "Practically, an improvement has resulted in a not inconsiderable number of cases." "The idea arises that, if we we can procure the exudation of serum at will in a diseased spot, we may thus convey a remedy to that spot through the blood, and thus intensify the disinfecting action of serum itself." It is not impossible that this may give rise to a new therapeutic method. We know that erysipelas has a certain healing action on lupus; this is not due simply

to the specific coccus, but to the increased exudation it brings about. Naturally, the new remedy must not be used when the kidneys are diseased, and perhaps the best dose to begin with is a decimilligramme. The injections should not be be made daily.

Clinical results by Heeven Heymann, B. Fraenkel and Herr Paul Heymann. The injection, made beneath the skin of the back, caused no abscess, only slight pain, sometimes slight stiffness of one arm for a day or two. Headache followed in one case, giddiness in another, slight diarrhœa in several. Some patients repeatedly complained of painful and increased urination; in one case the urine was bloody (after four decimilligrammes). In this case the out-patient reported the fact; and when he brought his urine for examination, it was clear. After a few days intermission, and a few doses of opium, treatment was resumed. Ten cases of tuberculosis were treated, all except one being severe cases of pulmonary and laryngeal disease. In all, the voice was hoarse, in some almost lost. Three or four days after the injections were commenced, the general condition remarkably improved in all, and the voice became clearer from day to day. Pulmonary signs objective and subjective all improved, and night-sweating diminished. In two cases of hectic fever this was lost. The laryngeal ulcerations diminished, and some healed altogether, while others were cicatrizing. No other medicine was given. The cases are appended in the original. (*Berliner klin. Wochensch.* No. 9, March 2, 1891.)

Herr B Fraenkel had treated five cases with highly satisfactory results. The new remedy "justified high hopes," although he had seen no direct cure as yet.

Gynæcology and Obstetrics.

PALPATION OF THE NORMAL UTERINE APPENDAGES.

By Dr. Howard A. Kelly. (*Canadian Practitioner*, Feb. 16, 1891.)

The author asserts that the normal uterine appendages can always be palpated. There are two avenues of approach, by the vagina and by the rectum, and the examination may be made either with two hands employed bimanually, either by vagina or rectum; or by the trimanual method, by vagina and by rectum. The success of the bimanual examination depends upon the downward pressure with the external hand displacing the abdominal walls in the direction of the ovary to be palpated, and thus affording a resistant plane against which the ovary can be felt by the internal hand. The internal hand must be used to invaginate the perineum, which is thus displaced upward into the pelvis. This invagination gives the examining finger, even though it be a short one, the necessary length. One, often even two inches, are thus gained to the palpating finger. Care must be taken in making the pressure necessary to produce this invagination not to stiffen all the muscles of the forearm, thus impairing the tactile sense. The rectum is, of all others, the best avenue for approaching the structures lateral to the uterus, affording as it does a wide open channel throughout the whole length of the pelvis. Where the structures cannot be reached at once through the rectum, they are brought within easy touch by bringing the uterus and ovaries into an artificial retroposed anteflexion, the mechanism of which was carefully described by diagrams. Third, the trimanual examination is conducted either by the vagina or by the rectum and vagina, assisted with the hand above. The peculiarity of this method is an artificial descensus uteri. The uterus is grasped with a pair of bullet forceps, and drawn downward until the cervix is seen at the vaginal outlet; and while an assistant holds it in this position, the gynæcologist uses his hands bimanually. To obviate the employment of an assistant, Dr. Kelly has invented an instrument, which he calls the corrugated tenaculum, flattened and roughened, so that it can be readily held between the last phalanges of the third and fourth fingers and the ball of the thumb, while the index finger of the same hand, assisted by the abdominal hand above, is engaged in making a vaginal or rectal examination. By one or the other of these methods, the uterus, broad ligaments, and ovaries and tubes, are within reach of a most thorough and searching examination, revealing at once the smallest abnormalities.

EXTIRPATION OF UTERUS FOR FIBROIDS.

By Dr. J. K. Kelly. (*Glasgow Medical Journal*, Feb. 1891.)

Dr. J. K. Kelly reports, in the *Glasgow Medical Journal*, the case of a maiden lady, aged forty-six years, from whom he removed the uterus on account of two large fibroids attached to the cervix, and occupying together the left oblique diameter of the pelvis. The operation, which was done under chloroform, lasted two hours. An elastic ligature having been applied round the cervix, amputation was performed immediately below the attachments of the tumour. The canal of the cervix was touched with strong liq. ferri perchlor., the raw surfaces were drawn together with continuous suture, and the stump carefully covered with peritoneum. The cut edges also of the broad ligaments of each side were sutured after removal of the ovaries and tubes. Abdominal wound sewn together in layers. Dressing of iodoform, salicylic wool, and wood-wool. Healing by first intention. The patient rose on the twentieth day. On the twenty-seventh day a vaginal examination shewed vaginal portion normal in shape and size, bordered all round the vaginal fornices, with a cord-like ridge. Pressure caused no uneasiness whatever, and there was no feeling of fulness above the stump.

THE TREATMENT OF CHRONIC ENDOMETRITIS BY THE INTRAUTERINE APPLICATION OF BORACIC ACID.

By Dr. Alexander Duke. (*Prov. Med. Journal*, March, 1891, p. 191.)

The author has obtained the most decided benefit in the treatment of cases of vaginal leucorrhœa and erasion of the os and cervix uteri, both acute and chronic, by vaginal application of boracic acid, and devised means of applying the acid to the endometrium itself, by means of a slightly curved vulcanite tube somewhat larger than a No. 12 catheter, with a tightly-fitting rod or piston of the same material. The tube is charged for about two inches from its point, by drawing back the piston after plunging the tube downward into powdered boracic acid in a wide-mouthed bottle. The point of the tube is then

inserted into the uterus, which has been previously cleansed with a wire curette, the piston is pushed home, and a stick of compressed boracic acid is deposited in the uterus, the patulous condition of the os existing in these cases facilitating the introduction of the tube. By this treatment many cases have been cured which had for a long time resisted the usual treatment by caustics. Most chronic cases of endometritis, the author considers, should yield to a dozen such applications at most. The boracic acid, besides acting as an antiseptic, astringent, and deodorizer, has also evidently some affinity for water, though not to so marked a degree as glycerine, so that it will also act as a depletant.

VAGINAL HYSTERECTOMY IN PELVIC SUPPURATION.

By M. Segond. (*France Méd.* Feb. 27, 1891.)

M. Segond, who has a certain predilection for this operation, prefers vaginal hysterectomy (or, as he calls it, uterine castration) to laparotomy, in cases of pelvic suppuration. His proposal did not meet with a very favourable reception when first broached. Since then he has performed the operation in twenty-three cases, with four deaths and nineteen cures. All were very seriously ill, and belonged to the class of cases for which laparotomy and removal of the appendages is usually resorted to. M. Segond advocates vaginal hysterectomy whenever it would be considered proper to remove the appendages *on both sides*. It is contra-indicated in unilateral affections. He claims that this procedure leaves no abdominal cicatrix, consequently there is no need of subsequent abdominal support; it gives the patient a better chance and yields better results.

CASE OF PULMONARY EMBOLISM OCCURRING DURING LABOUR.

By W. G. Barras, M.B., C.M., L.S.Sc. (*Glasgow Med. Journ.* March, 1891.)

Mrs. M., aged thirty-six, married eleven years, was seized with labour pains in the morning. At ten a.m. the os was beginning to dilate. Pains short and at long intervals. At four p.m. everything favourable, except that the pains were still rather feeble. To strengthen them, gave ergot and whisky. At 4.45 she was suddenly seized with great dyspnœa, syncope, and cordial distress. When the pains came on again she had to gasp for breath, and so there was little effect upon the advance of the head. At six p.m., she was delivered of a healthy living child, presentation and delivery being normal and natural. After this she became gradually worse, and a consultation was agreed upon. The opinion was formed that she was suffering from embolic obstruction of the pulmonary artery. She sank rapidly, and died nine hours after delivery. There had been apoplexy, pneumonia, and decline in the family.

Personal history.—The patient, when young, had burst a blood-vessel in the lungs, and at her first confinement had spat some blood-coloured sputum. Recovery after delivery of her second child rapid and complete. Five years ago she had a miscarriage. Shortness of breath and palpitation troubled her through life. She did not suffer from cardiac or other pain. No marked varix of external veins, nor dropsy, nor was any disease of heart or lungs discovered, beyond the "bursting" of a blood-vessel nineteen years ago.

Pathological considerations.—Dr. Barras can only explain the case thus:—It was due to the phthisical tendency and weak state of patient's heart, aided by the highly fibrinated condition of the blood. At this time a thrombus formed in the heart and vessels, which, becoming dislodged, was swept along the current of circulation until it reached the pulmonary artery, with the above result, denoting sudden and serious obstruction to the circulation in the lungs and right side of the heart, leading to increased pressure within the vessels and diapedesis, which would account for the excessive quantities of blood-tinged sputum which were expelled from the lungs, but differing entirely from the pneumonic spit of the cases where a hæmorrhagic infraction would take place. The negative theories are thrombosis of the uterine veins after childbirth, air, or cerebral embolism.

The treatment was mainly stimulant, small and repeated doses of whisky, beef-tea, chloric ether, and aromatic spirits of ammonia; mustard poultices to front of chest only, to avoid changing her position in bed, for fear of sudden collapse; inhalation of nitrate of amyl and turpentine, which alone gave her relief. A *post-mortem* was objected to by her friends.

GUNSHOT WOUND OF THE HEAD, WITH GREAT LOSS OF SUBSTANCE.

By Dr. J. D. Griffith. (*New York Medical News*, Feb. 21, 1891.)

An interesting case of recovery after extensive loss of brain substance is reported by Professor Griffith of Kansas. Patient was a boy, sixteen years of age, who had been accidentally shot in the head by a revolver bullet from a distance of two feet. The bullet entered just above the middle of the right superciliary ridge and passed out through the upper segment of the right occipital bone, wounding in its course the anterior, middle, and posterior lobes of the cerebrum. When first seen, two hours after the injury, patient was lying on the right side comatose, and bleeding from wounds of entrance and exit, and also from right ear. The left side was completely paralysed, but not the right. Right pupil markedly dilated, left contracted, and there was slight converging strabismus, which, however, appeared to have existed prior to the accident. Notwithstanding the symptoms of profound shock presented by the patient, the following operation was undertaken. The head was shaved and the bullet openings joined by an incision seven and a-half inches long. The frontal, the parietal, the great wing of the sphenoid, the squamous portion of the temporal, and a portion of the occipital bones had been shattered. The largest fragment removed was two by three inches. After removal of fragments the wounds in the dura mater were enlarged and almost joined. The track of the ball was exposed, and a number of spiculæ of bone washed out, during which procedure at least two ounces of cerebral substance escaped. Antiseptic precautions were used, a drainage-tube inserted, the wound closed with catgut sutures, and an antiseptic dressing applied. Next morning the boy was perfectly conscious and his memory seemed to be perfect. "His memory for events before the accident is seemingly as good as ever, and there is no reason to believe that it has since failed, for he remembers

everything from the time he regained consciousness after the operation. After the operation there was present, in addition to the hemiplegia, marked stuttering, which has steadily diminished. This was in all probability due to the extensive loss of the cerebral cortex." With the exception of a few unimportant complications, the boy recovered rapidly. A marked depression and a large cicatrix mark the seat of the wound. Bone is absent from the middle line to the temporal ridge and from point of entrance to that of exit of bullet. "Sensation in the paralysed side began to reappear six weeks after the injury, the skin becoming sensitive to pain down to the elbow and the knee. There is still slight numbness below those points. Motion also developed with returning sensibility, and has been greatly benefited by electricity. In November (six months after injury) he made his first attempt to walk, and he can now get about without assistance. The flexor muscles of both the upper and lower extremities are stronger than the extensor muscles. It is difficult for him to lift the toes of the left foot from the ground, and there is an inclination for this foot to catch on the other. When he tries to open his hand to grasp anything, the flexors are thrown into a spasm, which causes the hand to close tighter." The patient has now returned to school, and shows no evidence of impaired mental faculties. It is an interesting speculation whether the left hemisphere only is doing the work. Dr. Griffith remarks that he has almost decided in case of the development of marked epileptic seizures, to operate upon the cicatrix.

ON THE NATURE AND TREATMENT OF PUERPERAL OSTEOMALACIA.

By Prof. Fehling. (*Wiener Mediz. Wochensch.* No. 6, 1891.)

At the Berlin International Medical Congress, Prof. Fehling drew attention to the bad prognosis in seven cases of osteomalacia, most patients dying from the results of obstetric operations or from chronic debility connected with the disease. Rapid recovery in seven cases, after removal of the uterus and ovaries, suggested the plan of attempting a cure by removal of the organs of propagation, even when there was no pregnancy. He therefore performed castration in nine cases of severe osteomalacia, of which, while one died from intestinal stenosis, the remaining eight made a good recovery. The ages of the patients ranged from twenty-eight to fifty-one years. Most were mothers of large families, who have suffered from the disease for years, up to thirteen years. The observation of these cases, as well as of others where there was no operation, induced him to further investigate the dark question of the etiology of this mysterious disease. Examination of the urine gave no clue. Nor was he more successful with examination of the blood for bacteria; so that while he had formerly been inclined to assume an infectious nature of the disease, he had now abandoned that theory. Decrease of alkalescence of the blood, proved by Jaksch, was found in some cases, but not in others. The decrease was observed chiefly in severe cases. Neither before nor after successful operation was there any appreciable difference in the alkalescence of the blood. Sterilisation of the patient cannot be the only factor in healing the disease. In fact, cessation of ovulation must be regarded as the most material point, for there were women who had not borne children for from four to eight years, but who were cured only after castration. The following points seem important for a correct understanding of the disease:—

(1) The occasional aggravation of the disease during menstruation.

(2) The strikingly rapid alleviation of pain in the affected parts directly after the operation, the painfulness of the ribs and sternum disappearing before that of the pelvis.

(3) The enormous quantity of venous and arterial vessels in the extirpated uterus-appendages, with dilatation of the same as in pregnancy or in fibromyoma, indicates that here lies a material factor in the disease. So far, neither macroscopical nor microscopical examination of the ovaries has shown anything particular about the follicles or connective tissue.

(4) The remarkable fertility of osteomalacious women (3·9 is the average in Germany) indicates increased functional activity of the ovaries; and after the disease has begun, the continuance of heightened fertility is remarkable.

Prof. Fehling, therefore, concludes that the process of the disease is a pathologically increased function of the ovaries. Nasse has proved a decrease of the organic substance of the bones after section of the ischiatic. It is natural to assume a reflex excitement of the varo-dilators of the bone-vessels proceeding from the ovaries. The consequence is engorged hyperæmia in a bone, under the influence of which increased absorption of the new-formed bone takes place. After castration the irritation of the vaso-dilatators ceases, causing contraction of the bone-vessels and healing. Fehling therefore describes osteomalacia as a reflex tropho-neurosis of the bone system, analogous with Struma Mobus Basedowii.

Diseases of the Nervous System.

IN REPEATED OPERATION FOR CHRONIC FACIAL NEURALGIA.

By Dr. Andrews. (*New York Medical News*, Feb. 14, 1891.)

There is perhaps no class of cases more intractable to treatment than certain chronic neuralgias. The physician is often obliged to stand by with a hopeless feeling that he has exhausted the resources of his art.

In comparatively recent years the help of the surgeon has been invoked with satisfactory results in a few cases. It too often happens, however, that no relief is afforded by the surgical procedures of neurotomy or of nerve-stretching. At the same time, it has long been within the knowledge of surgeons that even where a permanent cure is not effected, yet considerable relief is obtained, extending over a long period of time. The consideration of the latter fact has led the writer of the present paper to advocate the plan of repeated operations on the same nerve in patients suffering from facial neuralgia. His article appears to be a philosophical and valuable addition to the literature of neural surgery.

Trifacial neuralgia is generally of peripheral origin. It may be caused by any of the various injuries and diseases of the maxillary region, but most commonly by a decayed tooth. The neuritis, as a rule, subsides without leaving permanent injury, but in some cases, for reasons which are at present unknown, it becomes

progressive and advances to the main nerve trunks. In the lower jaw, for instance, the inflammation reaches the main inferior dental nerve, and with the well-known obstinacy of neuritis proceeds backwards along the dental canal, emerges from the foramen on the inner side of the ramus, creeps up the inch and a-half of nerve from that point to the skull, and follows the trunk of the nerve into the foramen ovale, where it causes disease in the great semilunar ganglion just above the foramen and inside of the skull. Many cases seem to stop here permanently, causing frightful pain, referred to all of the three trunks of the trifacial, but not entering the brain. A few, however, follow the fifth nerve into the medulla oblongata, and set up a variety of cerebral disorders. In one case under my observation, the sight of both eyes was lost, either from the disease extending to the roots of the optic nerves, or to the visual centres of the brain itself." The ordinary course is a peripheral neuritis, spreading up to the semilunar ganglion, which becomes inflamed, and causes violent paroxysmal pains, referred primarily to the inflamed branch, but radiating through the other trunks.

Gross advised subcutaneous section of the inferior dental nerve at the point where it leaves the mental foramen. This procedure was soon abandoned in favour of the French method of resecting the nerve before its entrance into the bony canal In some cases the latter plan was attended with brilliant success, but in the majority a relapse occurred, "when, if a section of nerve long enough to prevent reproduction has been removed, surgeons abandon operative treatment as hopeless, unless there is enough of the stump of the nerve left to admit of a second resection." It was while searching for the shortened stump of a previously resected inferior maxillary nerve, that the operation resulted successfully, although not a particle of nerve-tissue could be found in the material removed. The following case is illustrative :—

"A lady, about seventy years of age, applied for relief from a characteristic and severe chronic neuralgia of the inferior maxillary nerve. I trephined the ramus of the jaw, and picking up the trunk of the nerve with a pair of stout forceps, slowly wound it on the beak of the instrument, and broke it off some distance towards the point of exit from the skull, bringing away about an inch of the nerve. The parts healed readily, and the patient was free from pain for about a year and a-half. A relapse then occurred, and she begged for another operation. Though unable at first to see that any result could be expected from an operation when the nerve was out of reach, it occurred to me that the broken end of the nerve-stump must necessarily be attached to the cicatrix of the old operation, that at least I could thoroughly stretch it, and 'that this might be useful just as in Nussbaum's operation. I therefore operated again, cutting along the line of the old scar to avoid hæmorrhage and shock. The hole left by the trephine was closed by cicatricial tissue. With a tenotome I carefully separated the cicatricial disc from the edges of the bone and drew it a little outward, then seizing it with strong forceps I forcibly drew upon it, and slowly twisted its internal prolongation until it came away. No nerve-tissue could be found in it, but the deeper part must be attached to the nerve-stump, and hence the latter must have been strongly stretched. The patient was again relieved, and remained free from pain for a year or two. Again she relapsed, and was again restored to comfort by a repetition of the procedure. She was thus relieved four times during a period of six years, though no nerve-tissue was exsected except at the first operation."

Prof. Andrews has met with repeated experiences of a similar kind, and thinks that many surgeons must have accomplished the same thing when pulling on the cicatrices of old operations in the hope of removing more of the stump. In any case the possibility of thus repeatedly curing after relapse is of great practical value, and deserves to be more widely known. Since prolonged relief often follows stretching without resection, it may be fairly asked whether resection is necessary at all.

Another important consideration is the operative treatment of inflammation in the semilunar ganglion, which is almost invariably present in chronic cases. The ganglion is deeply placed and lies against the carotid artery. The writer suggests a method of operation which consists, briefly, in first exposing the ramus of the jaw, which is then divided and forcibly turned outwards. The nerve is next identified and followed up to the foramen ovale, which opening is enlarged sufficiently to admit of the introduction of a very small curette, and with this the ganglion is scraped away. The ramus is wired into position and the operation performed antiseptically with due provision for drainage.

Such an operation as that proposed by Dr. Andrews might be justifiable in those distressing cases of intractable neuralgia of the fifth nerve, where life becomes almost unbearable. Referring for a moment to the author's graphic account of the rise and spread of this affection, it is of some interest to compare this condition with sympathetic ophthalmitis. In that case there is a progressive neuritis spreading along the optic chiasma, which can sometimes be arrested by resection of the optic nerve on the opposite side before the sound eye is involved. The majority of observers seem inclined to trace that progressive neuritis to the action of micro-organisms. It is not unlikely that the same influences may be at work in neuralgias arising from decayed teeth.

Pathology.

TUBERCULOSIS OF LYMPHATIC GLANDS.

By Dr. Vladimir V. Tikhomiroff. (*St. Petersburg Inaugural Dissertation*, 1890, No. 73, p. 99.)

Dr. Tikhomiroff, of Prof. N. P. Ivanovsky's laboratory, in St. Petersburg, has carried out a course of microscopical and physiological researches with the object to study the relation of scrofula to tuberculosis. His histological materials were derived (*a*) from twenty-five cases of extirpation of degenerated ("scrofulous") cervical, axillary, and inguinal glands; and (*b*) from five fatal cases of generalized tuberculosis with glandular lesions. The inoculation experiments were made on rabbits and guinea-pigs, the virus (triturated "scrofulous" or tubercular glands) being introduced either under the skin or into the peritoneal cavity. The main corollaries deduced by the author from his investigations may be given somewhat as follows :—(1) The specific pathogenic principle of the so-called "scrofula" is absolutely identical with that of tuberculosis. Hence the misleading term "scrofula" must be altogether discarded from our scientific vocabulary. (2) In guinea-pigs the inoculation of a "scrofulous" matter seems to act pathogenically more rapidly and

more powerfully than in rabbits. (3) In rabbits the course of tuberculosis, induced by the inoculation of a "scrofulous" matter, is rather slow; while the lesions occasionally may manifest some tendency to cicatrisation (*i.e.*, healing). (4) In tuberculosis, lymphatic glands undergo structural changes at a very early stage. (5) Enlargement of tubercular glands is dependent upon a peripheral prolifieration of glandular elements which proceeds in two distinct ways. One of the modes consists in the formation of lymphoid reticle with consecutive development of tubercular tissue therein, while in the other case the adjacent fatty cellular tissue is involved, the capsular reticular fibres growing into the latter and ultimately leading to its blending with the degenerated gland.

SARCOMA OF THE BACK.

By Dr. Largeau. (*Bull. de la Soc. Anat. de Paris*, 1890, p. 229.)

The patient was a married female, aged thirty, the mother of three children. In 1888 she first perceived a tumour at the level of the internal border of the right scapula. This tumour increased by degrees, slowly at first, but afterwards more rapidly, until at the end of the year it had attained an immense size. It extended from the middle of the neck to the twelfth rib vertically, and from the vertebral column to the shoulder transversely. It was formed of a solid mass, with large bosses at places, and was of a hard, somewhat elastic feel, resembling that of fibromata. The skin, which was much stretched and thin, moved slightly over the tumour, the surface of which was crossed by large veins. The movements of the right arm were impeded by the tumour, but only mechanically, for the shoulder-joint was in no way affected. There was a slight ulceration of a superficial nature at one place. The tumour did not give rise to much pain, but the patient was much weakened and cachectic, also fatigued by the weight of the tumour. As she was anxious for an operation, it was decided to remove the tumour, which was successfully accomplished after a lengthy and tedious operation, in which much blood was lost. A short time after the operation, the patient had a syncopal attack and died. The place of origin of the tumour, which was estimated to weigh 15 kilos., was the spinal border of the scapula.

ABSENCE OF PART OF THE GENITALIA IN TWO SISTERS.

By Dr. Mabaret. (*Progr. Med.* Dec. 20, 1890.)

The author was consulted by the younger of two sisters, aged respectively forty-two and thirty-three, with a view to ascertaining whether there existed any physical impediment to her marriage. The younger sister was tall and strong, very brown in colour, with long thick hair, had a harsh voice, and somewhat masculine figure. She was obliged frequently to cut her beard, and sometimes even to shave. The hair was much developed in every part of the body, the chest, arms, and thighs being covered with long black hairs. The breasts were rudimentary, and the figure, when half naked, resembled that of a man. On the other hand, the pelvis was feminine in type, and the mons veneris was well clad with hair. Palpation of the abdominal wall and examination per rectum revealed no abnormalities. On separating the thighs, there was seen a furrow passing from the pubes to the anus, at the anterior part of which, under the symphisis pubis, there was a clitoris, about 4 cm. in length, which was capable of erection. A fold of the skin, almost extending to its free extremity, simulated a prepuce, surrounding a small imperforate glans. Below this was the opening of the urethra. Midway between the opening of the urethra and the anus, and still within the furrow, there was a small diverticulum, into which an ordinary female sound penetrated with difficulty for 5 cm. Through this orifice the menses escaped each month without causing any trouble. The vagina, vulvæ, and nymphæ were absent. The elder sister presented the same anomalies, but the appearances were less masculine, the hair less developed, and the clitoris smaller and not surrounded with a prepuce. The two sisters were the only children of a normally formed couple. Nothing could be ascertained as to the forefathers.

ON PIGMENTED NÆVI.

By M. I. Hugues (Paris). (*Rev. Sci. de Bibl. Med.*, 1890, No. 1, p. 19.)

The conclusions arrived at by the author are as follows:—(1) The flat punctiform pigmented nævi have the same histological structure as the pigmented spots and the large patches of melanoderma. (2) The hypertrophic or papular pigmented nævi are of the same nature as the flat pigmented nævi. (3) All nævi, in general, circumscribed or diffuse, possess in their dermal layer cellular elements which are of an absolute constancy, and which well explain the transformation of nævi under certain circumstances into neoplasmata. (4) The pigmentary granules have their anatomical situation in the deeper layers of the epidermis, and in the superficial layer of the dermis, the last mentioned also containing the embryonic cells. (5) The pigmented spots of the skin are probably due to fœtal disease. The imagination cannot alone cause their appearance in any given part of the body. If the imagination has any share in their production, which is very doubtful, it can only act by causing, temporarily, some defect of nutrition of the mother, and, consequently, of the fœtus.

A CEREBRAL SARCOMA.

By MM. Russ & Negel. (*Bull. Soc. Med. et Nat. de Jassy*, 1890, No. 3.)

The patient, who was an Italian, presented himself at the hospital suffering from malarial symptoms. Some time after, he was seized with intense headache, which nothing could control, continuous vomiting, and obstinate constipation. A tumour, situated in the white matter of the brain, was diagnosed, but there was no paralysis, convulsive contraction, or motor or sensory symptoms to assist in localising it. After death a tumour of the size of a large nut, black in colour and resembling at first sight a focus of cerebral hæmorrhage, sharply limited, and situated outside the central ganglia, towards the central and inferior part of the right cerebral hemisphere. It was formed at the expense of the white substance, the peripheral grey matter being quite normal. The tumour was surrounded by a zone of yellow softening, probably of old standing. The microscopic examination showed that the tumour was a sarcoma belonging to the category of gliomata of Virchow.

OBSERVATIONS ON DIPHTHERIA.

By Dr. F. Tangl. (*Centrallbl. fur allgem. Path.*, 1890, No. 25.)

The observations made by Baumgarten on ten dead subjects and eight living had the following results:— In all the cases, as well as in two of pure laryngo-tracheal croup, the bacilli of Kleps and Loeffler were found in the superficial layers, but never in the deep. In almost all the cases streptococci were also found. Paralyses were observed in dogs or pigeons after either subcutaneous or intra-tracheal injections of the culture material, whether filtered or not. The result of the observations was to show that in the development of the false membranes there were found, near the fibrinous exudations, degenerations of the epithelium, which played a considerable part.

SCLERODEMA AND HEMIATROPHY OF FACE AND LIMBS.

By Dr. C. J. Nixon. (*Dublin Journal of Medical Science*, Feb. 2, 1891.)

Dr. C. J. Nixon describes the case of a boy of twelve, in whom a month after a severe kick in the left gluteal region, sclerodema began to develop, first appearing as a band corresponding with the distribution of the internal cutaneous nerves of the left thigh. On his admission to the hospital six months later, a condition of diffused sclerodema of the whole of the left side was found, mixed with morphœa patches, and accompanied by a progressing atrophy of all the tissues of head, face, and limbs. In describing the case, Dr. Nixon argues for the existence of true trophic nerves, which he believes to be mainly carried by the branches of the sympathetic. The association of hemiatrophia facialis with a nervous disturbance related to the area of distribution, of the trigeminus he attributes to the filaments applied to that nerve by the Gasserian ganglion, and probably also to the special fibres described by Merkel as lying along the inner border of the fifth nerve, and owning a separate deep origin. He regards hemiatrophy as the gravest expression of the same tropho-neurosis which produces sclerodema

Bacteriology.

AN INVESTIGATION TO TEST THE EFFECT OF INOCULATING CATTLE AFFECTED WITH THE DISEASE "PERLSUCHT" WITH KOCH'S LYMPH.

In the *Medicinisch-Chirurgisches Central-Blatt*, No. 8 (*Wien.* Feb. 20), is an account, extracted from *Balt. Wochenschrift fur Landwirthschaft, Gewerbe und Handel*, of some experiments, conducted at the Dorpat Veterinary Institute, to test the effect of Koch's remedy upon cattle, and especially to find out the strength of the reaction in such cases. Of course the early diagnosis of tubercular disease in cows is most important, in view of the possibility of the infection of their milk; and yet in spite of what is known now-a-days as to the methods of physical examination, and of the examination of the bronchial mucus for tubercle bacilli, the diagnosis in the early stages is uncertain. The experiments were to determine the extent and time of the "reaction." Three cows in which tubercle was diagnosed with certainty were used in the investigation. The amount of the remedy used was as follows:— Into the first cow, 0·1 c.cm.; into the second, 0·2 c.cm.; into the third, 0·3 c.cm.; in 3 c.cm. distilled water were injected. In every case the injection was done into the connective tissue under the shoulder-blade. The temperature was taken either hourly or every two hours. The result showed that the amount of reaction was in proportion to the amount of Koch's lymph used; thus, the first animal, injected with 0·1 c.cm., never had a higher temperature than 40° C., whilst the second, with 0·2 c.cm., had a temperature of 40·8° C., and the third, with 0·3 c.cm., had the highest temp erature of 41·7° C. The reaction took place in about eleven or twelve hours after injection. Control-experiments were made upon two perfectly sound common steers; into these animals 0·3 c.cm. of the lymph were injected, but no reaction followed. From the experiments, although their number is small, the reporter, Dr. W. Gutmann, believes that the reaction does not occur in healthy animals, but only in the tubercular. If this really be the case, no doubt Koch's lymph will be exceedingly useful in diagnosing the early stages of tubercular disease in cattle.

THE STOOLS OF FEBRILE PATIENTS FROM A BACTERIOLOGICAL POINT OF VIEW.

By M. Bard. (*Lyon Medicine*, Feb. 22, 1891.)

M. Bard gives the results of a bacteriological examination of the stools of a patient, whose temperature had been for some weeks about 102° F. On making plate- or tube-cultures of the *bacillus coli communis*. This appeared remarkable, because inoculation of plates with normal stools gives rise to the growth of all sorts of colonies, of which some liquefy gelatine. Now M. Rodet has shown that the bacilus coli is more resistant than many others to high temperature, and this is probably the explanation of the phenomenon. To test this M. Bard made inoculations of bouillon with normal stools, keeping them about three days in the incubation at 102° F. At the end of this time the bouillon was found to contain only two kinds of bacilli. It seems, then, that febrile temperature may be the cause of the purification of the stools.

A METHOD OF CONFERRING IMMUNITY AGAINST TETANUS UPON ANIMALS.

By Prof. Tizzoni and Dr. Giuseppina Cattani (Bologna).

These investigators have tried various means of research in the endeavour to discover a way of rendering animals insusceptible to tetanus. These researches are divisible into two series; in the first, experiments were done outside the body, and the second were upon animals. The first consisted of the study of the effects of various chemical substances upon the tetanus poison, in order to discover whether it was possible to find one which would render it harmless. In this way a great number of substances were tried, but the only compounds which were found to be really active were carbolic acid, chlorine water and trichloride of iodine, freshly prepared chlorine water, and trichloride of iodine, in two-per-cent. watery solutions, when mixed with a similar quantity of tetanus culture in gelatine filtered, and then concentrated to

one-third of its bulk in vacuo, make the culture innocuous, and in the same way five-per-cent. carbolic acid solution acts in about three hours, but these substances when injected into animals have no power to render them immune to tetanus. The second series of experiments took advantage of the fact that certain animals show an immunity to the disease. Thus were pigeons and dogs used. The blood-serum of the animals, collected in the usual manner, was brought into contact with a filtered tetanus culture in gelatine, and it was found to altogether destroy the poisonous effect of the tetanus poison therein contained, and that even when the serum used was very small, and the time short. This has been conclusively proved, as mice (white) injected with small doses of the mixture of serum and tetanus culture in gelatine are found to be immune to most virulent tetanus cultures.

EHRLICH'S TEST IN TYPHOID FEVER.

(*Therapeutic Gazette*, Feb. 1891.)

THIS test, which has been now known for a number of years, has till recently been regarded by many rather as a medical curiosity than as of diagnostic value. Dr. C. E. Simon, of the John Hopkins' Hospital, has recently shown that by carefully following the precise directions for its use, valuable information may be derived. The test consists of two solutions. (1) A saturated solution of sulphanilic acid in five-per-cent. hydrochloric acid, and (2) a five-per-cent. solution of sodium nitrate. These are to be mixed, just before use, in the proportion of 40 c.c. of (1) to 1 c.c. of (2). If this mixture be added to urine from a case of typhoid fever, the further addition of ammonia will produce a play of colours varying from an eosine rose to a deep garnet red. The best method of applying the test is to take a few centimètres of urine in a test-tube, adding an equal quantity of the sulphanilic acid mixture and shaking thoroughly; 1 c.c. of ammonia is then run carefully down the side of the tube. At the junction of the two liquids, there will be observed a ring of the characteristic colour, which is produced in scarcely any other disease than in typhoid fever. Dr. Simon's conclusions may be thus summarized:—(1) The reaction may be obtained in typhoid fever from the fifth to the twenty-second day of the disease. (2) Its absence from the fifth to the ninth day indicates a very mild attack, save in children, although this rule is not an absolute one. (3) As it occurs previous to the appearance of the rash, it is a very useful aid in the diagnosis of typhoid fever.

THE BACILLUS OF MAIZE.

(*Gazzetta degli Ospitali*, No. 64.)

DOCTORS UFFREDUZZI and OTTOLENGHI communicated to the Academy at Turin their observations upon the toxic action of cultivation of the bacillus of maize in polenta. They found—(1) That the bacillus of maize, which resembles the potato bacillus, and the *bacillus mesentericus fuscus*, is developed in healthy polenta and resists a high temperature. (2) This microbe is found in abundance in the fæces of dogs fed upon polenta so treated, but is not found in ordinary healthy dogs. (3) If dogs are fed upon polenta in which this bacillus has been cultivated, no toxic action follows, though there are some temporary disorders of health. (4) The extract of this cultivation made in polenta, introduced into the system of dogs by subcutaneous infection, always caused death with symptoms of paralysis. They therefore conclude that the cause of toxic action of diseased maize pointed out by Lombroso is not due to a special microbe, but to toxic matter produced in maize when this microbe is present.

THE MICRO-ORGANISMS OF MALARIA.

(*Philadelphia Med. and Surg. Reporter*, Editorial, Feb. 7, 1891.)

SINCE the publication in 1884, by Laveran, of the discovery of certain infusorial parasites in the blood of patients suffering from intermittent fever, evidence in favour of that view has been steadily accumulating. This article remarks that the plasmodium then announced has much the same sort of argument in favour of its being the infectious agent of intermittent fever as there is that Koch's bacillus is the cause of tuberculosis. Most of the micro-organisms hitherto traced in relation to specific diseases have been found to belong to the fungi. It seems to be clearly established, however, that malaria is not a bacterial disease. The series of phenomena met with in the blood of persons suffering from malarious disease is not found under any other conditions, and is now referred to the presence of an animal parasite of the order of protozoa, resembling the amœba. The appearances which are obtained are thus described:—(1) Colourless protoplasmic bodies inside the red blood-corpuscles. They vary in size from one-fifth to almost the whole diameter of the corpuscle. They exhibit active amœboid movements. Some contain scattered granules of brownish-black pigment; others are unpigmented. The corpuscle which contains the amœboid body gradually becomes pale by the loss of its hæmoglobin, which is converted by the parasite into the pigment granules above mentioned. (2) Disc-shaped bodies of colourless protoplasm, which are motionless. These are believed to be the plasmodia above mentioned, which have destroyed (eaten up) the blood-corpuscle, and have entered on the cyst stage. They contain pigment-granules. (3) Forms similar to the cysts in which the pigment-granules have become massed at the centre, while the protoplasm is undergoing segmentation. (4) The small masses of protoplasm that have resulted from segmentation of the cyst-form. They are apparently ready to enter upon active work. (5) Certain hyaline crescentic bodies, which Laveren regards as a part of blood-corpuscles that have been invaded and partly destroyed by the parasites. They have pigment granules in the centre. (6) Certain flagellated bodies. These are round, pear-shaped bodies about one-half the diameter of a blood-corpuscle containing pigment-granules, and provided with from one to four flagellæ, which have an active slashing motion. By means of these flagella the organism moves about in the blood-plasma. (7) Free flagella. These have become detached from their bodies, and seem to be capable of leading an independent existence. This flagellum, which has been seen by numerous observers, has been identified by some of them as the *bacillus malariæ* of Klebs and Crudoli. All attempts to cultivate this poly-morphic parasite outside the body have hitherto failed, nor can malarial disease be induced by injecting the micro-organism into the veins of the lower animals. A positive result, however, has been obtained by performing the experiment upon man. In

James's case the amœboid forms, pigmented and unpigmented, as also the flagellated forms, were peculiar to the active stages of the disease. Sulphate of quinine appears to be the most effectual parasiticide as regards these hematozoa, which disappear rapidly from the blood when that remedy is given internally in sufficiently large doses. The leucocytes wage a constant warfare against the organisms, especially the flagellated forms. Laveran found the micro-organisms in the blood of 432 out of 480 malarial cases which he examined for that purpose. He has sought for the parasite of malaria in the water and soil of infected localities, and reports the discovery of spherical flagellated bodies like those described, and also free flagella exactly resembling those found in malarial blood.

PROTECTIVE INOCULATION AGAINST DIPHTHERIA.

(*Prov. Medical Journal*, Mar. 1891, p. 169.)

Dr. von Schwimitz and Dr. Gray, of Washington, having experimented with a germ, which is probably the same as the Klebs-Lœffler Bacillus, claim to have discovered a substance that renders guinea-pigs proof against diphtheria. Details are not given, but a statement is made that a chemical substance has been obtained which, injected into the animal, renders it insusceptible to a dose of diphtheritic virus sufficiently strong to kill a non-protected animal in forty-eight hours. They are sanguine that the process may be applicable for the prevention of diphtheria in man, and that further experiments on the same lines will result in the discovery of protective inoculation substances for the other infectious diseases. This, of course, is an extension of the method of investigation pursued by Koch, who is also said to be working with a view to the prevention of diphtheria. Fraenkel, who is at work in the Koch laboratory, has developed an albrimmose which is said to possess the curious property of being efficient as a protection to guinea-pigs, when infected with diphtheria, by subcutaneous injection, but useless when the injection is through the mucus membrane. Behring has found that the peroxide of hydrogen renders animals incapable of infection from the diphtheritic virus; this he considers to be due to an anti-bacterial power communicated to the serum, and not to the corpuscles. The serum from an animal thus protected will, at first, confer a similar immunity on another, but this property lasts only a variable time. Reference is also made to inoculation with erysipelatous virus, but this is not to be depended upon as a remedy, as the patient may succumb to the disease before it has time to take effect.

RESEARCHES ON EXPERIMENTAL TUBERCULOSIS.

By M. Strauss. (*La Semaine Médicale*, Feb. 18, 1891.)

This paper gives the results of the researches of MM. Graucher, Martin, and Ledoux-Lebard. It may be summarized as follows:—

(1) *Influence of the dose of a fresh culture on the character of the resulting tuberculosis.*—A rapid course is insured by injection of a large dose (0·1 mgr., about). A rabbit thus treated will die in three weeks, with very large spleen and congested liver, both containing many bacilli, but without visible tubercles. If small doses (starting from 0·1 mgr.) be given, the disease runs quite a different course. Death takes place only after two to six months, the animal loses flesh very slowly, or sometimes not at all, and the lesions are quite different. In these cases the spleen is normal in size, and liver appears healthy, and under the microscope exhibits retrogressive tubercular changes in the portal spaces. Bacilli are here either absent or rare. The lungs, however, are much diseased, presenting granulations and caseous masses, and there are other manifestations of local tuberculosis.

(2) *Influence of gradually increased doses of cultures.*—If, starting with very small doses, a rabbit receive every week an increasing quantity of virulent culture (up to ·01, ·02, or ·03 mgr.), it will die in about the same time as a control-animal inoculated with the final dose; in fact it will resist quantities thus added, much larger than those received by the "controls." Each dose is followed by a certain amount of fever, and if the animal be killed, enlargement of spleen and liver will be observed.

(3) *Action of attenuated cultures.*—As a general rule, cultures attenuated by various means produce a slow form of tuberculosis, and the *post-mortem* lesions are similar to those produced by very small doses of virulent matter. In the course of the resulting disease, however, there may appear fresh symptoms, such as paraplegia or nephritis. The paraplegia is accompanied by great wasting, but the autopsy shows no tubercular lesion of the cord. The renal changes present the characters of the "large white kidney," and this nephritis is often the only visible lesion, the liver, spleen, and lungs appearing normal. These latter symptoms would appear to be due rather to a chronic poisoning than to a development of tubercle.

Syphilography.

ENERGETIC INUNCTIONS IN CEREBRAL SYPHILIS.

By Dr. Mader. (*Med. Press*, p. 203, Feb. 25.)

Dr. Mader, of Vienna, reports the cure of a young woman, aged twenty-eight, by means of the application of iodide and mercury when ominous symptoms were present: squinting, headache, the eyes inflamed, double vision, giddiness and vomiting. There was no rash or throat affection to be noticed. The pain in the head was very severe. Movement in bed, sitting, lying on the right side, closing the eyes, all increased the giddiness. Ophthalmoscopic examination revealed left retinitis, the vessels tortuous and full, no albumen, and constant vomiting. Thirty grains of iodide of potassium were given. The next day the iodide was vomited, and the patient's condition was the same. On the fourth day the vomiting was severe, and seventy-five grains of ung. cinereum were rubbed in daily. On the sixth day the vomiting had ceased, and the headache was less. After forty-six inunctions the patient left the hospital perfectly cured.

The Committee of the Brown Institution have recommended, to the Senate of the London University, the appointment of Professor-Superintendent, *vice* Professor Huxley, Mr. C. S. Sherrington, M.A., M.B. Cantab, Lecturer on Physiology, St. Thomas' Hospital.

Laryncology and Otology.

ADHESION OF THE SOFT PALATE TO THE BACK OF THE PHARYNX.

By Dr. Jas. A. Macmahon. (*Canad. Practit.* Feb. 16th, 1891.)

The patient was a young lady who came complaining of catarrh, dating from an attack of diphtheria four years previously. The author examined the anterior nares and found hypertrophic rhinitis on both sides. When he proceeded to examine posteriorly, he found the soft palate attached to the posterior wall of the pharynx throughout its entire extent, with the exception of a space the size of a small quill immediately behind uvula. The uvula was an inch and a half long, swollen, and hung down behind the tongue, causing a constant desire to cough and clear the throat. There was an adhesion also between the right side of the base of the tongue and the side of the pharnyx. She breathed habitually through her mouth, and was unable to take two consecutive respirations through her nose. She had difficulty of breathing during deglutition, and could not clear her nose, from which there was a constant slight discharge. As a preliminary step he removed an inch of the uvula, and cauterised the inferior turbinated bones, and two weeks later he broke down the adhesions of the soft palate to the pharynx by the aid of the knife. The parts were carefully prevented from remaining in contact for some days until cicatrisation was complete and the patient was then enabled to breathe through the nose and eat with comfort.

A SIMPLE TREATMENT OF NASAL POLYPUS.

By Dr. King. (*Med. Press*, Jan. 28, 1891.)

Dr. King, of Florence, recommends that after the nasal mucous membrance has been rendered insensitive by the application of a solution of cocaine, a Bellor's sound should be introduced, and to the spring protruding through the mouth, a strong silk-thread attached, well waxed and of a certain length, to which at certain distances three small sponges of increasing sizes are tied. The first should be large enough so as to sweep out the nasal cavity, the remaining two to render the same service, or to arrest the nasal hæmorrhage if so required. They are then dragged through from behind forwards, and the polypus generally comes away with the first sponge. This method could be applied with advantage for certain foreign bodies which are difficult of access.

Ophthalmology.

HYPODERMIC MEDICATION IN EYE DISEASE.

(*Med. Press*, March 4, 1891, p. 228.)

Dr. C. J. Lundy, of Detroit, writing on the treatment of blindness arising from excess in the use of tobacco by administration of strychnine, says that it it has long been attended with good results, but that the best effects of the drug are obtained when it is given in the form of hypodermic injections. For amaurosis associated with alcoholism, likewise the same method of treatment was successful, his plan being to give one injection daily of nitrate of strychnia, commencing with one-twentieth or one-sixteenth of a grain, and gradually increasing the dose to one-fifth or one-fourth of a grain. In the hypodermic treatment of syphilitic eye-lesions, both secondary and tertiary, Dr. Lundy gives the preference to cyanide of mercury over other salts of the metal for employment in this connection. His practice is to inject daily from a-fifth to a-quarter of a grain, beginning with smaller doses. The advantages claimed for this treatment are: in the first place, the medicine does not escape through some natural channel before it has entered the circulation; secondly, the dose can be accurately regulated, while the action of the drug is more certain; thirdly, the full physiological effect of the remedy is immediately produced; fourthly, in certain cases, hypodermic medication will effect results otherwise unattainable; fifthly, ptyalism does not follow the hypodermic use of mercury; sixthly, hypodermic medication offers particular facilities for administering drugs otherwise ill-borne by patients.

A SIMPLE TREATMENT OF CORNEAL ULCERS.

By M. Valude. (*Med. Mod.*, Feb. 15, 1891.)

M. Valude, of the Quinze-Vingts Eye Hospital, recently communicated to the Academie de Medicine a new method of treating ulcers of the cornea, which is so simple in its application, and, according to its inventor, so successful in its results, that it cannot fail to be generally adopted. Hitherto corneal ulcers complicated with hypopion have been treated by puncture either by the knife or thermo-cautery, this operation having frequently to be repeated, and too often leaving behind it opacities, if not actual staphyloma. For this unsatisfactory method M. Valude substitutes a simple dressing, consisting of a pad of salol gauze, which, with a moistened gauze bandage, effectually seals the eye and maintains a certain amount of compression. Before being applied the eye is carefully disinfected. The dressing is not renewed until after three or four days have elapsed, when the ulcer is found to be already healing, and the collection of pus in the anterior chamber much diminished. M. Valude states that the cornea usually regains its pristine transparency without any opacities. For corneal ulcers uncomplicated by hypopion M. Valude, relying on his experience of fifteen successful cases, is very sanguine of its general adoption as the treatment.

Reviews.

Mr. Spears' Report to the Local Government Board on the Sanitary Condition of the Wells Urban Sanitary District, Norfolk.

This is a low-lying district, seven miles and a half from the Norfolk coast; its population is 2,645, increased by visitors in the summer. These are estimated to amount to about 200 at one time in the town. The streets are too narrow for paved footways. The sewers are unventilated, but they do not carry off any excrement, as this is stored in "tanks," supposed to be water-tight, and removed at the expense of the occu-

pier of the house. It may be certain that this removal of human excretion is not too frequently performed. The water is entirely obtained from shallow wells, varying in depth from ten to nearly forty feet; they are, in all cases, sunk into the chalk, and all those submitted to Dr. Frankland for analysis yielded results which showed them to be highly dangerous, two out of the three being, as he says, "little better than purified sewage." Yet the people are satisfied as to the wholesomeness of their water supply! This is a case in which the Local Government Board should exercise their powers, and compel the Sanitary Authorities to provide the people under their care with a sufficient supply of wholesome water.

The Action of Water on Lead. By JOHN HENRY GARRETT, M.D. London: H. K. Lewis. 1891.

IN this brochure of little more than one hundred pages Dr. Garrett narrates some seventy-seven experiments made by himself to elucidate this question, which is one of pressing importance, especially to those large towns in the North of England which derive their water from upland surface water. The theory propounded is that the oxide of lead found is produced continuously, when access of air is allowed by means of a nitrate or other oxide of nitrogen, and that this substance acts in a similar manner to the red corpuscles of the blood, by absorbing oxygen from the water and air, giving it up to the lead, and then going through the same process again and again, until all the metallic lead is in form of an oxide. This appears to correspond with the human facts better than the free acid theory or the plumbo-solvent germ theory, and is worthy of the attention of the health authorities in the districts affected. The report that some of the experiments are not given in greater detail, but the results so far are clearly given, and the book will be read with advantage by all those interested in the subject.

Ten Years' Compulsory Notification of Infectious Disease in Edinburgh. By HARVEY LITTLEJOHN, M.A., M.P., C.M., B.Sc. (Public Health), F.R.C.S.E. Edinburgh: Oliver and Boyd.

IN this pamphlet of about thirty pages Dr. Littlejohn gives a fair *résumé* of the experience of Edinburgh of the compulsory notification of infectious disease. Has this expensive procedure resulted in any gain to the public health of the citizens of the "Modern Athens"? They have paid £6,523 10s. to the medical practitioners by way of fees, and ought to have something to show for their money. The number reported in 1880, the first year given, was 5,644; and in 1889, 5,039; while the average for the ten years is 5,218. It must be remembered that the figures of 1889 relate to a larger population than those of 1880, there being an estimated increase of 44,000 during the ten years under review. The number of intimations is kept up by the large number of cases of measles, averaging 2,952, and by the epidemics of scarlet fever which occur with remarkable regularity. The good work of notification is clearly seen in small-pox, there having been only fifty cases during the ten years. Typhus and diphtheria have actually increased. We are surprised that the former disease should remain even to the extent of thirty-five a year in Edinburgh. Dr. Harvey Littlejohn attributes it to the old, badly-ventilated, and thickly-populated "closes," and also the mild character of many of the cases causing them to be mistaken for typhoid. Thus mistakes occur in the "Modern Athens" as well as in London. Now both these cities are taking steps to remedy medical education in the diagnosis of infectious diseases.

Many Authorities have been urged to add measles to those diseases already mentioned in the Notification Act; the experience of Edinburgh does not encourage one to so advise Sanitary Authorities, and the author does not claim that the disease has been lessened by the Act, but thinks that the natural history of this disease has been elucidated. No doubt that is so, but does the City of Edinburgh think that this is worth £369 a year?

The author finally shows that the total zymotic rate for the ten years under notification is 1·82 for 1,000, while it was 3·33 per 1,000 for the ten years before notification; and that, while the general zymotic rate has thus decreased, that from scarlet fever has been reduced from 0·95 per 1,000 to 0·45 per 1,000. With these results even the opponents of the Act must acknowledge that it has been of benefit to Edinburgh, and that that town has received a *quid pro quo* for its outlay.

WE have before us four numbers of the "Catechism" series, brought out by Messrs. E. and S. Livingstone (Edinburgh), for the purpose of facilitating that process of introspection which is becoming in the student just prior to the ordeal of examinations. In spite of the fact that it is a very old method of self-instruction rejuvenated, it cannot be denied that the plan of question and answer does impress the memory and rivet the attention better than the bald statement of the fact. More than this, it enables the student to make his own *examen de conscience* without the aid of a tutor. So far, the series comprises Materia Medica; Anatomy; and Public Health (two volumes, one on water and the other on air and ventilation). On the whole, we are prepared to concede that they afford a cheap and useful method of mental training.

Hygiene and Public Health. By B. ARTHUR WHITELEGGE, M.D., B.Sc. Lond., D.P.H. Camb., Medical Officer of Health to the West Riding County Council. Cassell and Co. 1890.

THIS little work belongs to the very excellent series of Manuals published by Messrs. Cassell, and will bear comparison with any of its predecessors for conciseness and comprehensiveness. It is really surprising into what small compass the salient facts of sanitary science can be brought when divested of superfluous verbiage. Still, a work of this size, though it may be relied upon to give the student an insight into the heterogeneous medley of scientific data of which sanitary science is made up, can only prepare him for taking up each department in detail. The work of "boiling down" has been well done, and a very good idea is given of the more recent views on such subjects as the spread of tuberculosis, etc. The author has had in view, not only the requirements of examinations in hygiene, but also the practical work of Medical Officers of Health, and the questions upon which they are called upon to advise Sanitary Authorities and the public. A considerable amount of space has, therefore, been devoted to vital statistics, sanitary law, and to notification, isolation, and other preventive measures, special attention being paid to the framing and enforcement of bye-laws and regulations. The various calculations are fully worked out with explanatory formulæ, so that this part of the work should present no difficulty to the student.

Quain's Elements of Anatomy. Edited by EDWARD ALBERT SCHÄFER, F.R.S., Professor of Physiology and Histology in University College, and by GEORGE DANCER THANE, Professor of Anatomy in University College, London. 3 vols. Tenth edition. London: Longmans, Green & Co. 1890.

WE have before us Part 2 of Volumes I. and II., the former, on Embryology, by Prof. Schäfer, and the latter, on Osteology, by Prof. Thane. Prof. Schäfer, in some 170 pages, gives the most complete and comprehensible account of the phenomena of evolution, as comprised in the science of embryology, that we have yet met with. It is profusely illustrated, there being no less than two hundred engravings, many of which are coloured. Without such aids it would, indeed, be difficult to follow the changes which are so beautifully depicted, but with these it becomes a labour of love; and students for any examination in which a knowledge of this science is expected, will do well to seek it at the fountain-head. They will learn more of the science from this "pen and pencil" teaching in a week than they would obtain elsewhere in a much longer period of close study under less favourable auspices.

The woodcuts in Prof. Thane's facsimile on Osteology are of extreme delicacy and finish, and number close upon one hundred and seventy, including those illustrative of the ossification of bones. They surpass anything of the kind we have seen. The text itself is a model of clear diction and lucid topographical explanation. The work, as a whole, will certainly maintain its unquestioned position as *the* systematic work on anatomy in the English language.

New Articles.

BASDON'S PNEUMATIC DOUCHE.

THE nasal douche, though less indiscriminately employed than formerly, is a well-established and indispensable method of treating certain nasal complaints. Many persons, however, experience difficulty with the ordinary nasal douche. The contraction of the soft palate, by means of which the naso-pharynx is shut off from the lower pharynx, is not sufficiently strong and continuous to prevent some of the fluid passing downwards, and the result is frequent fits of coughing and choking. There is danger, too, from the use of too great pressure in the stream. Some of the fluid is apt to be forced into the Eustachian tubes, or the accessory sinuses, with troublesome consequences in these regions.

Basdon's "Pneumatic Douche" is designed to meet the above objections. The credit of the idea is due to Dr. Pins, of Vienna (see the MEDICAL RECORDER for May, 1890). This apparatus consists of a 16-oz. bottle, with an indiarubber stopper, into which are fitted two glass tubes of unequal length. The longer tube reaches to the bottom of the bottle, and on its upper end is an olive-shaped nozzle to fit the nostril. The shorter tube does not reach to the top of the fluid, and its upper end is bent at an angle so as to form a mouthpiece. The patient takes the mouthpiece between his lips, while the olive-shaped nozzle is fitted into one nostril. He then blows, with cheeks distended, into the bottle, and the fluid is forced up into the nostril, and runs out at the other nostril. He is able in this way, with short pauses for rest, to send the whole contents of the bottle, if necessary, through the nose in the course of a couple of minutes. Blowing with cheeks distended, as above described, causes the soft palate to be firmly contracted and applied to the posterior wall of the pharynx. No fluid passes down into the throat. The greatest force with which the fluid can enter the nose is equal to the strength of a forcible expiration, and is never so excessive as to involve a danger of the fluid being forced into the sinuses. Basdon's "Pneumatic Douche" is undoubtedly an excellent apparatus for nasal irrigation. Even children use it with facility. It is supplied by J. Carr and Co., 171, High Holborn.

"SALVINE" DENTIFRICE.

THIS is a very agreeable and refreshing antiseptic tooth-paste, put up conveniently in collapsible tubes. It does not appear to contain anything likely to prove injurious to the enamel, whilst its cleansing and whitening effects on the teeth are well marked.

"PALATINOIDS."

THIS new method of putting up nauseous and insoluble medicaments, due to Messrs. Oppenheimer, Son & Co. of London, marks a step forward in elegant pharmacy. We have assured ourselves of the ready and perfect solubility of the "Palatinoids," and, as the list of formulæ is extensive and judiciously selected, it cannot be doubted that they will win for themselves a position in the dispensing world. In addition, they are remarkably cheap.

A NEW OIL-SILK PROTECTIVE.

MESSRS. KHRONE & SESEMANN have submitted to us samples of a new non-adhesive oil-silk "protective," specially adapted for use in hot climates, inasmuch as it will bear exposure to high temperatures without becoming sticky, or in any way deteriorating. It is made of two qualities, the cheaper costing only three shillings a yard (31½ inches in width). It is vastly lighter than the ordinary oil-silk, and appears admirably adapted for surgical use, not only in hot climates, for which its durability more particularly fits it, but elsewhere.

A NEW ANTISEPTIC.

A NEW and powerful antiseptic and deodorising agent has been introduced, under the name of "Chloro-

Phenol," by Messrs. J. Hargreaves and Son, the well-known Preston chemists, the chemical nature of which is sufficiently indicated by its name. It is supplied in the form of fluid, powder, and soap, the former being soluble in water in all proportions. It is non-corrosive, does not stain, and is volatile at ordinary temperatures; so that it is well adapted for domestic use, especially in cases of typhoid fever, for disinfecting the stools, linen, etc. Its odour is rather agreeable than otherwise. We have put its deodorising qualities to the test, and find them all that can be desired.

"MEDICINE CACHETS."

JUST as there are more ways than one of killing a cat, so there are more ways than one of serving up nauseous or insoluble drugs for fastidious patients, and most people are fastidious when offered the alternative. The *medicine cachets* now placed in the market by Messrs. Burroughs, Wellcome & Co.—that firm of inveterate and incorrigible innovators—are a modification of, and an improvement on, the wafers which have been largely used for the exhibition of medicine for many years past.

The cachets are cup-shaped, with a handle which, when moistened, closes over and serves as a lid, the whole being fixed in apposition by means of a miniature mould. A small metal spoon is also comprised in the outfit for measuring the medicaments. Every kind of nauseous or insoluble drug, provided it be not too bulky, may be readily and agreeably administered in these cachets, which are ready for use in an instant, and require no manipulative skill whatever. They will be welcome to medical men and their patients, and also to pharmacists, whose labours they will lighten.

NON-ARSENICAL WALL PAPERS.

MESSRS. W. WOOLLAMS AND CO., of High Street, near Manchester Square, W.C., have sent us, for inspection, their new book of non-arsenical and other sanitary wall-hangings, which, as usual, contain a variety of artistic and very meritorious designs. It is now generally known that this firm were the first to introduce innocuous wall-papers to the British public, since which time they have found their way to most parts of the world where such decorations are used. When first these wall-hangings were introduced, some of the advocates of the old kind of wall-papers objected to them, notwithstanding the absence of danger to health, on the plea that they did not admit of the use of sufficiently attractive colours; but Messrs. Woollams have shown the world that they are enabled to introduce every necessary colour of an innocuous character, and their wall-hangings are now admitted to be second to none manufactured, and all are free from any mineral substance that is dangerous to conditions of health. Amongst the patterns before us are numerous examples at as low a price as one penny per yard, the colours of which are washable. At a slightly enhanced price we have satin-faced papers of exquisite designs, in all the new popular colours, also washable. The Japanese leathers are notable for their rich colouring and design. Their new introduction, "Anaglypta," is a thick embossed paper, supplied either in self-colours, or decorated, and is a noteworthy addition to our choice of wall-hangings. Another class of papers that figure largely amongst the selection are the raised flocks for painting over, and the designs are equally commendable. Still another class is found in the book, viz., the block-printed new satteen-toned papers of most lovely tints. The patterns of all the papers are so varied in colour and design that the most fastidious should be satisfied.

THE IMPROVED COTTON-WOOL UNDER-CLOTHING.

SINCE the introduction of Dr. Jaeger's animal-wool underclothing, some years since, considerable interest has been taken in the question as to what is the best material and mode of manufacture for under-garments; but scientific opinion appears to be general that, whatever the material may be selected for under-wear, it should be woven in such a manner as to admit of a free passage for the evaporations from the body through the garments. Nearly a century since, the late Benjamin Thompson, better known as Count Rumford, who identified himself so much with the questions of heating and ventilation, and whose name is not yet forgotten in connection with some of our heating-appliances, also made many exhaustive experiments in relation to the heat of the body and its evaporations, which were embodied in a work that we believe is still extant. Amongst his experiments was that of discovering the relative conducting power of substances employed for clothing, and he did not overlook the fact that the interspaces of the materials he was experimenting upon were filled with air, and he ascertained what effect that air would have. He eventually came to the conclusion that air is a non-conductor of heat, and that if the body was clothed with a porous fabric, the interstices would of course be filled with air; the body would be, practically, clothed with air, which, while allowing it to throw off its effete matter, prevented it losing its heat. It is almost needless to add that Count Rumford's views, which so long laid dormant, are those now freely advocated by the bulk of the profession. Dr. Erasmus Wilson also says, "The body should be clothed with a strata of warm air next the skin." The researches of some eminent German scientists are to the same effect, and, to use the words of a noted Professor, "The clothes we wear are not warm in themselves, they only hinder the body from losing heat in consequence of their spongy textures, and the air they contain." Admitting these views to be correct, we should endeavour to arrive at a conclusion as to which of the several kinds of sanitary under-clothing now in the market are the best for health, and the exigencies of our climate. We claim to have had experience with all of them, and can, more or less, speak well of all; but we are confronted with the paradox of two eminent German Professors, whose views are entitled to respect, being diametrically opposed as to the material to be used. Dr. Jaeger advocates animal-wool for under-clothing for all climes and all times, carrying his theory to an extent we cannot endorse; and Dr. Lahmann contends that vegetable or cotton-wool, as woven under his directions, is better for health from an all-round point, and preferable in some features.

While admitting the value of Dr. Jaeger's clothing over the bulk of that obtainable when it was first introduced here, it is not so porous as others since invented; and, apart from the question of wool *versus* cotton, we do not for that reason consider it so good. Again, it has the unavoidable objection attaching to all animal-wool garments, of persistant shrinking in washing. Having worn the Jaeger clothing for some years, we experienced this objection very much. Pants became shorter, leaving an uncovered space on the legs, between them and the socks, and the garments generally becoming in time oppressively tight. But, however porous the material may be, animal-wool is irritating to the epidermis of large numbers of people, and, to use the words of Dr. Lahmann, "The constant irritation caused by these foreign hair-shirts, effeminates the skin, and renders it unfit to resist the slightest draught." In the tropics, too, and most hot climates, the lightest animal-wool under-garment is too exciting to be comfortably borne. On a late visit to Brazil, where the writer advocated the use of a porous material for under-clothing, he found strong objections raised to animal-wool as being unbearable in the hot weather; and although he was there in the winter, and wore the most porous animal-wool garments obtainable, he would have discarded them in favour of cotton-wool, could he have obtained suitable ones. Dr. Lahmann, who has given probably as much attention to the question of under-clothing as Dr. Jaeger, and who is, perhaps, not so great an enthusiast as his opponent, has introduced a material made of the finest long staple cotton-wool, elastic and porous, superior to anything of the kind yet manufactured. It is as soft as silk, and bears a close resemblance to it, and is made in various grades of thickness, which he contends is the best material for health, having the great advantage over animal-wool of being a non-irritant, and proof against shrinkage. Dr. Lahmann has a large sanitorium at Dresden, where he receives patients suffering from chronic diseases of the heart, lungs, bronchials, digestive organs, &c. All his patients wear his improved cotton-wool under-clothing, and, again to quote his words, he says, "I am perfectly satisfied with it, *and so are they*."

Having had the garments in question brought to our notice, and being particularly pleased with their make and appearance, we determined to test their value. In the midst of our recent cold weather, we exchanged our animal-wool under-clothing for Dr. Lahmann's cotton-wool, though, we must confess, with a little timidity. For the first few days we could not forget the fact, nor ignore the doubt we felt. But this feeling soon disappeared, we experienced no appreciable change in warmth, not the slightest cold was taken, irritation was completely absent, and we felt no desire to return to our "old love." Since then, other friends have essayed the change, and with like results, and we are fast becoming converts to the opinion of the inventor. Our opinions are borne out by many professional and other men of note, who have adopted the new garments, and we repeat that for such places as India, and the tropics generally, it must prove a boon to the community. There is another feature in connection with this clothing. It is only about half the price of the best animal-wool garments, which places it within the reach of a large number of the community who could scarcely afford to purchase he more costly article.

Dr. Koch's Lymph.—The police of Munich have issued an order forbidding the sale of Dr. Koch's lymph.

Patents.

[*This list is specially compiled for the* London Medical Recorder by Messrs. Rayner & Cassell, *Patent Agents, of* 37, *Chancery Lane, London, E.C.*]

2,391. Improvements in bath chairs, perambulators, and other wheeled vehicles. Joseph Lyttle, 15, Walter Street, Liverpool, February 10th.

2,539. An improvement in the construction of surgical trusses. Thomas Eggington, 4, St. Ann's Square, Manchester, February 12th.

2,599. Improvements in surgical splints. Thomas Eggington, 4, St. Ann's Square, Manchester, February 12th.

2,906. Improvements in the art of dentistry. Joseph Washington Clowes, 53, Chancery Lane, London, February 17th.

2,909. An improved plaster for medicinal purposes. Joseph Henry Osgood, 4, South Street, Finsbury, London, February 17th.

2,931. An improved tourniquet for surgical ambulance and other purposes. Moses Mullowney, 12, Victoria Buildings, Manchester, February 18th.

3,194. Improvements in feeding bottles. Hy. Taylor, 37, Chancery Lane, London, February 21st

3,373. Improvements in and connected with medical batteries. George Francis Webb and John Arthur Crisp, 53, Chancery Lane, London, February 24th.

3,905. An improved catheter. Ralph Winnington Leftwich, 167, Brixton Road, London, March 4th.

4,068. Improvements in the production of chlorine. Farnham Maxwell Lyte, 53, Chancery Lane, London, March 6th.

Specifications Published.

9,622. Pike. Bronchitis kettle. 1890. 6d.

3,960. Wood. Galvanic medical appliance. 1890. 6d.

20,190. Harness. Treating patients during surgical and operations. 1890. 11d.

20,507. Hessing. Splints for applying to limbs. 1890. 8d.

20,839. Longdon. Surgical knitted ware. 1890. 4d.

The above specifications may be had of Messrs. Rayner & Cassell, Patent Agents, 37, Chancery Lane, London, W.C., at the prices quoted.

[Should any of our readers desire to take out patents for inventions, either English or Foreign, and require advice upon the subject, the "Patent" Editor will be pleased to give them the benefit of his knowledge and experience. Communications addressed to the "Patent" Editor, *Medical Recorder*, 13, Waterloo Place, Regent St., S.W., will receive prompt attention.]

The British Institute of Preventive Medicine.—The Council of this Institute (the arrangements for which are well advanced) include representatives of all the universities and many scientific and medical corporations. Sir Joseph Lister is the chairman of the executive committee; and the local committee in Cambridge consists of Sir George Paget, Sir George M. Humphry, Prof. Liveing, the Master of Downing, Dr. Gaskell, Dr. Lea, Dr. D. Macalister, Prof. Roy, and Messrs. J. W. Clark, Shipley, Shore, Adami, and Hankin. A site has been selected, near the Museum and the Medical Laboratories, where the new buildings are to be erected.

The London
Medical Recorder.

AN OUTBREAK OF ROTHELN.*

THE disease I am about to bring to your notice is known by a large number of synonyms. The following are given in Pepper's "System of Medicine," viz., Rubeola, Rubella, Roseola, Epidemic Roseola, German Measles, French Measles, Hybrid Measles, False Measles, and Rubeola morbillosæ et scarlatinosæ. Many of these terms are misleading and objectionable, and I shall use the title Rötheln to avoid confusion.

Some German physicians in the middle of the seventeenth century favoured the idea that this was a distinct specific exanthem. Their views were disputed by others who held that it was connected with measles and scarlet fever. The conflict was renewed at times for upwards of a century, and even Nemeyer was among those who held that when it arose from infection it consisted of a modification of measles and scarlet fever. Even at the present time—notwithstanding that Rötheln has a place in every text-book of medicine—there are some medical men who deny its existence as a separate disease, or who fail to distinguish between it and measles.

In 1881, at the International Medical Congress, the subject was discussed, and it was clearly shown that patients who suffered from measles obtained no immunity from Rötheln (see *Trans. International Med. Congress*, Lond. 1881, section vii). I may also mention an outbreak of Röthen and measles which occurred in the Dublin Fever Hospital, under the personal observation of my colleague, Dr. Joynt. Both diseases were prevalent in Dublin in May, June, and July, 1887. Two cases admitted to the Hospital with measles developed Rötheln while under treatment. Several cases were admitted from the South Dublin Workhouse. When convalescent they were sent back to the Workhouse, but were again returned to the Fever Hospital suffering from Rötheln. At that time both fevers were prevalent in the Workhouse Nursery. Such facts point to the conclusion that there is no connection between Rötheln and measles, and with regard to scarlet fever I may at once state that all my cases were suffering from that disease. Rötheln may therefore be regarded as a distinct disease *sui generis*.

The infection was twice imported into the hospital, first in March, 1890, and secondly in June. Thirty-eight cases came under observation; twenty cases occurred in the spring outbreak, and eighteen in the summer.

Sex.—Twenty-four were females and fourteen males.

Age.—Twenty-two were under 3 years, fourteen between 3 and 6, and one 9, and one 12. The age given in some books is 5 to 15.

Contagium.—No micrococcus or germ, so far as I know, has been described; but with regard to the transmission of the infection from one individual to another, this undoubtedly may take place early in the disease, probably before any visible symptoms develope. On the occurrence of the earliest symptoms, all my cases were at once removed from the ward and isolated; every precaution was taken to disinfect bedding, etc., and still other cases occurred. There was no case where the infection was carried from one ward to another by attendants.

Incubation.—The length of the incubation period is said to vary from one to three weeks. The two outbreaks under notice occurred in twelve well-marked series, *i.e.*, from the removal of one series of cases from a ward until the occurrence of the next, in which the incubation period extended from ten to twenty-three days, and only in one instance did the latter period occur. In the majority of cases, the eruption appeared at the end of the second week or the beginning of the third.

Invasion.—This stage (as properly understood from the developement of the first symptoms till the appearance of the rash) is so short that it is practically absent, and this is a most important point in the differential diagnosis between Rötheln and measles. Of thirty-eight cases, in six only were invasion symptoms noticed; of these, three had slight rise of temperature with redness of the conjunctiva and cough for one day. Two had cough and coryza for three days with evening temperature of 103°F., while the sixth had diphtheritic sore throat, with severe constitutional disturbance six days before the rash appeared. In most cases the rash was noticed while the child was being dressed or undressed, and in some instances while sitting at meals. Any invasion symptoms must have been so slight that they escaped detection.

Eruption, in every case, appeared on the face and chest as pink rose-coloured spots, seen under the cuticle. In twelve or twenty-four hours these spots increased greatly in size, pushed up the cuticle in a flat non-papular form and with a velvety soft feel to the touch. During this time numerous new maculæ appear over the trunk and limbs. In forty-eight hours the eruption had greatly increased, in many cases became confluent on the face, the features becoming slightly swollen. In three cases the eruption began to fade at this stage. On the third day the eruption spread on the body and limbs, the spots coalesced and formed large irregular erythematous patches or blotches of irregular shape. There is not that uniformity of distribution usually seen in measles. The eruption then usually became darker in colour and began to fade, but on the fourth day it may further increase and become diffuse or general. In ten of our cases it could scarcely be distinguished from scarlet fever; but on careful examination, as a rule small spots or streaks of normal skin may be seen about the back or buttocks, surrounded by an intense erythematous blush. I have never seen similar spots in what one might term a well-developed scarlet-fever rash. As a rule, the rash begins to fade on the third or fourth day, but it may remain longer. In two cases it was visible for six and in two others for seven days. On a few occasions, I have noticed the rash become paler about the second day and again reappear. The decline of the rash is always gradual and in the order it appears. In eight cases there was dark staining left for several days, which, as it faded, had a tendency to assume a brownish and

*By N. S. MANNING, F.R.C.S.I., Medical Superintendent City Hospital, Birmingham. Abstract of a Paper read at the Queen's College Medical Society, Birmingham.

yellow appearance, and in three it amounted to dark petechiæ which did not disappear on pressure. In one there were large hæmorrhagic extravasations, about the size of a shilling, on the abdomen and back. These lasted for twelve days, and during the process of absorption presented the characteristic colour changes of a bruise.

The temperature in all went up *pari passu* with the development of the rash. In some it ran up quickly to 140°F. The temperature fell as the eruption faded except where complications intervened. In fifteen cases the highest temperature registered were 104° to 106·20°F. In six others the highest temperature were 103° to 103½°, and in the remainder of the cases it varied from 100 to 103°.

The nervous disturbances which usually attend these high temperatures, such as sleeplessness, restlessness, etc., were always present, and in two cases delirium.

The heart's action was rapid in many cases, registering from 140 to 170 beats per minute. A constant and important sign was the enlargement of the superficial lymphatic glands, posterior to sterno-mastoid muscle in the neck, in the axilla, and groins. These were enlarged in every case. The felt-like small horse-beans under the skin were not painful, but were slightly tender to the touch.

Respiratory Tract.—In only three cases were there marked coryza. Troublesome barking cough was a frequent symptom, and appeared to be due to laryngeal catarrh. Acute laryngitis (not diphtheritic) occurred six times; this is a very grave and fatal complication. Four or five deaths were due to this cause in conjunction with broncho-pneumonia, fifteen cases were complicated with bronchitis, and ten with broncho-pneumonia. Desquamation was noted in only three cases.

Alimentary Tract.—The great thirst and loss of appetite which accompanies pyrexia were always present. The tongue was more or less coated with whitish fur, which is cleaned off as the attack subsided. In a few cases the tongue stripped, leaving a raw red surface, with enlarged papillæ, much resembling the strawberry tongue of scarlet fever.

Stomatitis occurred eight times, with extensive ulceration of the gums, buccal mucous membrane and tongue.

Vomiting occurred in the invasion stage only once.

Diarrhœa occurred three times about the end of the first week.

Nephritis occurred once, but may have been due to scarlet fever.

Several cases had otorrhœa previous to the attack, and five developed it subsequently. Varicella occurred in two cases concurrently with the Rötheln, both eruptions were out at the same time.

Previous to the Rötheln all the cases had scarlet fever, but in addition three had pertussis, two varicella, and one diphtheria.

Five cases were fatal, four due to laryngitis and broncho-pneumonia, and one to diphtheria. Mortality in thirty-eight cases was 13·2 per cent.

In conclusion, I will sum up by stating briefly the most salient features by which we may distinguish this disease from measles and scarlet fever. To come to a correct diagnosis, on an isolated case of Rötheln, is no easy matter; it has so many characteristics in common with the two diseases mentioned, more especially measles. It is impossible to find any one point which will clear up the difficulty, but one must rather take whole groups of signs and symptoms on which to form an opinion:—

	Rötheln.	Measles.	Scarlet Fever.
Invasion	*Nil.*	Three to five days, with pyrexia and conjunctival and bronchial catarrh.	Twelve to twenty-four hours, pyrexia, headache, and vomiting.
Catarrah	Slight or absent.	Marked conjunctivitis, coryza, cough, etc.	Absent.
Eruption	Appears on face and chest as bright pink-red maculæ, first under the cuticle, which become raised, with tendency to spread and form irregular patches or become diffuse.	Appears on face as darkish-red slightly-raised papules, extends to trunk and limbs, papules become confluent, but distribution more uniform.	Appears on chest as diffuse general redness of skin.
Throat lesions	Slight swelling and injection of fauces.	Fauces injected.	All the faucial structures acutely inflamed, swollen and red, or ulcerated.
Tongue	Furred.	Furred.	Thickly furred, which begins to strip off in twenty-four or forty-eight hours, leaving raw surface with enlarged papillæ.
Superficial lymphatic glands	Always enlarged in axillæ, groins, and behind sterno-mastoid muscle in neck.	May be enlarged at angles of jaw and behind sterno-mastoid muscle.	May be enlarged at angles of jaw and behind sterno-mastoid muscle.
Desquamation	Absent, or very slight.	Branny.	Characteristic peeling-off of large pieces of epithelium.

A MONTHLY publication under the name of the *Health Record* made its first appearance in Dublin on the 7th ult., the editor being Mr. Edgar Flinn, of Kingstown, Examiner in State Medicine, &c.

THERAPEUTIC EFFECTS OF BROWN-SEQUARD'S TESTICULAR EMULSION AND POEHL'S SPERMIN.*

Dr. Jejelenko, of Simferopol, has carried out, conjointly with Dr. I. I. Kazas, a very interesting series of clinical experiments, in order to elucidate the therapeutic effects of Brown-Séquard's testicular emulsion, a canine fluid (either strained through muslin, or non-strained) being invariably employed. The experiments were conducted on twenty-seven persons (in April and May, 1890), the total number of the injections amounting to seventy-five. The patients may be divided into three groups, one of which (ten subjects, with thirty-four injections) embraces cases of hemiplegia and various nerve affections; another (seven subjects, with twelve injections) those of mental disease; and the third (ten subjects, with twenty-nine injections) those of senile marasmus. The substantial outcome of the research may be summed up somewhat in this way:—

(B) Local and Constitutional Accessory Effects.

(1) The fluid invariably gives rise to a lively pain, which appears immediately after the injection, gradually increasing to reach its maximum intensity usually in twelve hours or so, after which it subsides to cease altogether commonly by the end of twenty-four hours. It is strictly localised, being limited to the area of local cutaneous congestion and subcutaneous induration which develop at the site of the injection, and, in a majority of cases, disappear within two or three days, leaving no trace whatever.

(2) Sometimes (in nine out of seventy-five cases) the injections may be also followed by the formation of local abscesses, which, as a rule, develop from the said infiltration, varying in size from a pigeon's egg to a hen's. The time of their appearance oscillates between a fifth day (after an injection) and the end of a third week. In such cases the primary local tenderness and pain, caused by the remedy, persist until the termination of suppuration, or incision into the gathering. The suppuration does not seem to stand in any connection with septic conditions, since (*a*) the process may be observed even in such cases where the strictest sterilising precautions are resorted to; and (*β*), as a rule, it develops in many days after the injection. Its causes should be sought partly in some physical properties of the testicular liquid itself (in the presence therein of large unabsorbable particles of the testicular parenchym), partly in certain individual peculiarities of patients—to wit, in extremely lowered absorptive power of their subcutaneous cellular tissue. [The abscesses were observed in two old men above ninety years of age; three cases of melancholia; and in four of hemiplegia.]

(3) The emulsion always produces a febrile rise, which commences in from four to six hours after an injection to gradually attain its maximum level (from 1° to 3° C.) in about twelve hours, the temperature as gradually sinking to the standard commonly about the end of twenty-four hours. The febrile movements occur not only in patients with a previously normal temperature, but also in those who otherwise have a subnormal one or a slight fever. The "reaction" seems to be dependent upon the remedy's influence on the regulating thermic cerebral centres. In cases of abscesses a secondary febrile elevation is observed, which then stands in a direct connection with the suppuration.

(B) Therapeutical Results.

I.—*Nerve affections and hemiplegia.*

(1) In a severe and highly-refractory case of *sciatica* occurring to a woman who had been suffering from incessant agonising pains, aggravated by any slightest touch to the limb, and accompanied with obstinate sleeplessness, the injections immediately brought about a striking alleviation of pain, the patient becoming able to move about and allowing all possible manipulations on her limb. The relief lasted for twenty-four hours, after which the pain returned, but in a greatly modified and mild form, a formerly acute or cutting sensation having been transformed into a dull aching one which did not any more interfere with the woman's sleep or walking.

(2) Of four cases of *hemiplegia*, in three the treatment failed; but in the fourth, in that of an old woman of sixty who had been "absolutely bed-ridden" for the preceding four months, after six injections the patient began to walk with a stick, anæsthesia of the affected limbs disappeared, the intestinal and vesical functions became regular, and her general state improved to such striking degree that, according to her urgent request, she was discharged from the hospital.

(3) A considerable amelioration was also noticed in a case of *paralysis spastica*, and in another (female) of *paralysis agitans*. It should be added, however, that in the former mercury and iodine, and in the latter salicylic acid, were employed side by side with the spermatic emulsion, and that in the case of shaking palsy a relapse ensued as soon as the acid had been discontinued, the woman's condition again improving on resuming the drug.

(4) In two cases of *locomotor ataxy*, and in one of *meningitis*, not the slightest benefit could be obtained. [The author supplements this group with an eleventh case, that of a woman dying from croupous pneumonia. An injection of the emulsion did not produce any impression either on her pulse or brain. Four hours later she died from gradually increasing cardiac failure, remaining unconscious to the end.]

II.—*Mental disease.*

(1) Of two cases of *melancholia*, in one the remedy gave negative results; while in the other, in that of a woman who had not uttered, literally, a sound during a twelvemonth, obstinately lying perfectly motionless in her bed, "on the next morning after an injection, to a universal surprise, she suddenly got up, approached the chief nurse, and began to freely converse with the latter, asking about the injection, answering questions, and expressing her hope concerning her recovery."

(2) A similarly formerly absolutely silent and bed-ridden man, suffering from *progressive palsy*, with a subnormal temperature, "suddenly got up as soon as the febrile reaction had set in, and commenced to quickly walk about, talking with other patients. His temperature remained normal for a fortnight or even longer, during which period he continued to manifest a cheerful disposition."

(3) In a young man with *paranoia cum melancholia*, the remedy caused a "specific" or sexual effect *(vide infra)*.

(4) In the other three cases of the group, referring to patients with *secondary forms* of insanity, the results were *nil*.

III.—*Senile marasmus.*

* By Dr. Alexandr A. Jejelenko. (*Transactions of the Simferopol Medical Society*, 1891, vol. ii., p. 81—94.)

[The subjects were inmates of a local alms-house, their age varying from eighty to ninety-two, and the number of injections in individual cases from one to five.]

(1) In seven cases the effects were limited to a more or less considerable amelioration in the subjective state, the patients feeling stronger and more cheerful.

(2) In the remaining three cases, however, of which two referred to the most decrepid men of the series, the action was almost marvellous. All of them had been complaining of an extreme general weakness; weakness of legs, greatly interfering with their locomotion; weak and stiff arms, with sensation of "woodness" about them; obstinate habitual constipation; while in one (aged ninety) there existed, in addition, incessant "calls" to micturition, with dribbling away of the urine in a drop-by-drop fashion. In every one of the senile trinity the very first injection was followed by a general amelioration, which steadily progressed after each further *séance*. By the end of the testicular course (from two to five injections) all the old men emphatically declared that "they had become much younger," feeling very cheerful and strong. And, "in fact, their legs became obviously much firmer and more enduring, the gait assured, their hands stronger and more mobile, the stools easy and regular (daily), the person's outward appearance much better." One of them "actually left the home for the helpless—an event never yet heard of in its annals." The patient who had been afflicted with urinary troubles regained the power of passing his water in a full-sized and energetic jet, and of thoroughly emptying his bladder, while the frequency of "calls" fell from four or five per hour down to one every three or four hours.

(C) Specific Action on the Sexual Functions.

It was noticed in three cases, one of which was that of the just-mentioned patient, a very religious and modest man and assiduous church-goer, who had been previously meditating only of his "going soon to die" and such-like things. After the very first injection he suddenly developed an unmistakable erotic disposition (began to persecute the home's administration with urgent requests concerning interviews with his "*baba*," *i.e.*, "old wifey," who, long forgotten, was residing at a remote village, etc., etc.). Another patient, a young man with paranoia (*vide supra*), who had been formerly masturbating but very seldom, commenced to repeat his *séances* very frequently, explaining his behaviour by his having been suddenly attacked with sexual desire. The third patient, a neurasthenic baker of thirty-one, with an absolute sexual impotence of twelve years' standing, had been vainly treated by all ordinary means. Twenty-four hours after a testicular injection he was enabled to perform two consecutive coitions with the energy of his best young days.

(D) General Conclusions.

(1) There is no doubt whatever that, in suitable cases, the use of Brown-Séquard's emulsion may be followed by very beneficial results.

(2) Exact indications and contra-indications for the method can be established only on the ground of further impartial and careful clinical experiments on an extensive scale.

(3) Dogs being expensive and rabbits not always accessible, it would be advisable to undertake experiments with testicles from cocks and sparrows.

The author states, further, that he also tried Poehl's spermin (a two-per-cent. solution) in three cases, the total number of the injections made being sixteen. In one of the patients, suffering from senile marasmus, seven injections were followed by a considerable amelioration in walking-power and expelling force of the bladder. In another, a neurasthenic man of thirty-four, with complete sexual impotence of three years' standing, "there appeared slight morning erections, while dyspnœa and cardiac palpitations disappeared, and the general subjective state improved." The third case refers to the baker already mentioned above. The improvement from the testicular emulsion having gradually disappeared, the patient applied (five months later) "for another dose." This time spermin was injected (at 8 p.m.), and that with the result that the man could successfully perform five coitions in the course of the following night, "erections being extraordinarily powerful, though aspermia occurred during the last two acts." No unpleasant accessory effects from spermin were ever observed.

SCHULTZE ON TRAUMATIC NEUROSES.*

Professor Frederick Schultze, of Bonn, criticises with much force and ability the views of Oppenheim and his followers, with regard to neuroses and neuro-psychoses following injury. He argues that, although there can be no doubt that neurotic and psychical disturbances may occur after injury, still no distinct and sharply defined marked condition is ever presented to which one could designate as traumatic neurosis. With regard to the functional nervous affections and psychoses which have been observed after severe and well-marked head-injury, it has been pointed out by von Bergmann that, in the first place, a causative connection between such disturbances and the injury cannot be established in every subject of weak intellect whose head has been injured; and, secondly, no special form of mental disturbance is ever presented as the result of such injury. In dealing with those forms of traumatic neuroses which were first described in this country by Erichsen, and to which so much attention has been recently directed by Charcot and Oppenheim, reference is made to the fact, that in the latest developments of this subject the morbid conditions in question are attributed not only to severe injuries acting directly on the head and back, but also to relatively slight and insignificant peripheral lesions.

Schultze thinks it remarkable that whilst undoubted nervous and psychical disturbances occasionally follow even very slight injury, a very large proportion of individuals, on the other hand, recover from severe injury, even when this has involved the skull or spinal column, without presenting such morbid conditions as neurasthenia, hypochondriasis, melancholia, hysteria, and the like. From this it is concluded that, if one of two individuals subjected to the same external injury, especially if this be one of frequent occurrence and relatively insignificant, afterwards suffers from well-marked neuroses, the nervous system of this patient must previously to the receipt of injury have been in an abnormal condition. Such morbid condition of the nervous system or predisposition to neurosis may, it is believed, be due to chronic gastric affections, whether functional or organic, to chronic cardiac

* Lecture before the International Medical Congress in August last, and recently published in the *Sammbung-sclemscher Vosträge.*

disease consequent on muscular degeneration, to arterial sclerosis, and to old disease of the ear.

In considering the question whether the supposed condition of traumatic neurosis be specially characterised or not by any well-defined group of symptoms, Schultze doubts the correctness of the opinion held by Oppenheim, that amongst the most important of such characteristic symptoms are concentric diminution of the field of vision for colour-perception, and localised or diffused anæsthesiæ. With regard to these conditions, it has been found by Schultze and his assistants that, whilst it is often closest in cases of neurosis following injury, it is occasionally presented in instances of functional disease of non-traumatic origin. The latter of the supposed special symptoms is held to be one that is very frequently simulated. Sleeplessness, heaviness in the head, muscular tremor and motor debility, pains in the back and sacral region, palpitation in the heart, &c., have been shown by Erb and others to constitute the characteristic manifestations of neurasthenia. Locomotor disturbance, which is also regarded by Oppenheim as a symptom of some importance, is believed by Schultze to be either due to exaggeration or the result of pre-existent hysteria or of some anatomical lesion of the vertebral columns.

Schultze next enquires how the varied forms of functional nervous disturbance are to be distinguished, on the one hand, from actual organic lesions, and, on the other hand, from simulated signs. With regard to the first question, it is pointed out that in many cases of injury to the spine, followed by nervous symptoms, although there may be no external indications of injury to the bones or ligaments, it is very difficult, if not impossible, to exclude the possibility of lesions, contusion, compression, and hæmorrhage, for instance, of the cord.

There can be no doubt, it is asserted, that simulation occurs frequently in cases of supposed traumatic neurosis. This has been proved by cases studied in Erb's clinic, and, of twenty-five cases observed by Schultze in the course of eighteen months, the symptoms were found to be due in eight to simulation, and in three to exaggeration. The simulation, it is held, is in most instances quite intentional and not influenced, as many hold, by hysteria. Concentric diminution of the field of vision for colours, and impairments of sensation and motor power may, as Schultze proves, be also simulated. Muscular tremor, to which much importance has been attached as a diagnostic symptom of actual traumatic neurosis, may be caused by mental excitement or by exposure to cold during the medical examination. Exaggeration of tendon reflexes may also be due, as has also been shown by Dunges, by chilling of the surface of the body. If the reflexes are feeble or wanting, one must regard the morbid condition of the patient as something more than a functional and psychical disturbance. Prolonged contractions and fibrillar quivering of faradised muscles subsequent to interruption of the current have been regarded by Rumpf as a means of distinguishing true from false traumatic neurosis.

To these criteria, however, Schultze attributes very little importance. They often fail, he states, and when present may be the result, like previously mentioned signs, of anxiety and of the cold. Increase of the heart's action, unless this can be proved to be persistent, is considered to be an indication of simulation. As in most instances of supposed traumatic neurosis, the symptoms are worthy of a subjective character, the chief duty of the medical examiner is to test with as much care as possible the credibility of the patient. A strong tendency to exaggeration in describing his condition, in an apparently sound and healthy man whose ordinary habit is not to use superlatives, should excite suspicion as to the strict correctness of his statements and the reality of all his complaints.

REPORTS FROM THE LABORATORY OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.*

THIS third volume of Annual Reports shows that energy in the direction of scientific research is by no means flagging in Edinburgh. The work is quite up to the standard of its predecessors, and, judging from the thirteen papers now printed, ten of which have not appeared before, the traditions left by Professor Woodhead have been amply honoured by his able successor. As the editors remark in their preface, this volume by no means represents the whole work of the Laboratory; the results of certain researches have appeared elsewhere, and others are incomplete. It must not be forgotten, too, that the Laboratory undertakes and has made numerous reports on morbid specimens for Fellows and other practitioners, thus fulfilling a want long felt by many of our Profession.

Medical men of all classes, whether pure scientists or practitioners, will find something in the book which will be of interest to them. Pharmacology is enriched by papers from Dr. Stockman and Mr. Dott. Gynæcologists will read with interest the work of Dr. T. Helme, which, besides, throws much light on the physiological action of ergot. Dr. Berry Hart gives a paper on the anatomy and mechanism of early abortion, illustrated by excellent drawings. The fifty pages devoted to a study of the nature and varieties of leucoytes, by Dr. Gulland, will appeal to all as a clear statement of the present state of our knowledge. Dr. Noël Paton, with Dr. Balfour, writes a paper on the composition, flow, and physiological action of the bile in Man; Dr. Paton also describes an attempt to determine the influence of muscular work on the proteid metabolism of the body. Other papers interesting to pathologists are, one on cystic degeneration of the kidney and liver, by Dr. Kennedy, and another on an improved method of preparing large sections for microscopic examination, by Mr. Webster, who has also studied the nerve-endings of the female pudenda with reference to the pathology of pruritus vulvæ. Perhaps the most interesting of all are the two contributions which finish the volume, although the first is not strictly the results of work done in the Laboratory—an essay on Bacterio-therapeutics by Drs. Sims Woodhead and Cartwright Wood, and a study on the influence of the process of inflammation on the course of injection, as exemplified in anthrax and erysipelas, by Drs. Wood and Ross.

Dr. Stockman's paper on the pharmacology of morphine and its derivatives is a very careful study of the effect of certain modifications of, and additions to the morphine molecule. Morphine itself is found to have first a narcotic, and secondly a tetanic action; on replacing the hydrogen atom of one of the (OH) groups

*Edited by J. BATTY TUKE, M.D., and D. NOEL PATON, M.D. Vol. III. Edinburgh and London: Young J. Pentland. 1891.

by alkyl radicals to form the methyl (codeïne), ethyl (codethylene), and amyl (codamylene) ethers, the action of the product becomes successively less narcotic and more tetanic.

The kind of action seems to be the same, no matter what radical is introduced, provided it replaces the same hydrogen atom. If, however, the intimate structure of the morphine molecule be altered, as in methocodeine, then the physiological action becomes quite different, the drug acting as a muscle poison (like apomorphine). Addition-products, as methylmorphinum chloride, do not differ qualitatively in their action from the original substance, but the paralysing action on motor nerves is increased, and the narcotic action lessened. The above work is a good illustration of the close relation between chemical structure and physiological action.

Dr. Helme's paper on the physiology of the uterus commences with *résumé* of the general literature of the subject, after which details are given of his own experiments.

The most interesting portion of the paper deals with the action of hot and cold water, and of the various derivatives of ergot on the uterine contractions. *Hot water* (120°—125°F.) produces an initial contraction, and afterwards improves the rhythmical movements; *cold water* (40°—50°F.) causes one long-continued tonic contraction. Both are useful, but under different conditions. In abortion, in induction of labour, and in inertia uteri, we should use the warm douche, as under these circumstances we want to improve the normal rhythmic action, not to produce a tetanic contraction. The temperature of the douche must, in all cases, be regulated by the thermometer. On the other hand, when the products of conception have been expelled, interference is required on account of hæmorrhage, and here the cold douche will produce just that prolonged tetanic contraction which is required. To have this effect the douche must be of short duration (2—3 minutes at most). As regards the action of ergot, the results show that (1) a small dose improves the rhythmical action of the uterus; (2) a medium dose strengthens and prolongs the rhythmical contractions; (3) a very large dose increases the intensity of the individual contractions, and prolongs them, but there is no tendency to produce tetanus. The liquid extract of the B.P. was found to be almost inert unless quite fresh. Experiments were also made on ergotin, ergotinin, and sclerotic acid, with the result that while ergotinin was found to be quite inert, the other two substances possessed the properties of ergot above described. The bearing of this work on gynæcological practice need not be here pointed out.

The paper on Bacterio-therapeutics should be read by all who intend to prosecute research in this direction. Our knowledge of the subject, although of such recent growth, has increased so rapidly that a paper of this kind is of the utmost use. It has been the aim of the writers "to give a sketch of the historical development of the subject, so that by taking into consideration many of the known facts at our command a wider view might be obtained, and at the same time an indication might be offered, of the different lines on which in the immediate future new developments might be expected to take place." It is impossible in a notice of this kind to do more than just indicate the character of the paper, which is itself a very condensed review of the present position of bacterio-therapeutics, or the study of the action of the products of one microbe on those of another.

The concluding paper by Dr. Wood and Mr. Ross is also highly interesting. It has long been thought that the process of inflammation is usually a defensive one; the authors have sought to determine whether the production of an artificial inflammation in animals before or after inoculation with anthrax would favourably influence the course of the disease. This does not, however, seem to have been the case in their experiments. But the subject is one which is certain very soon to attract further attention, not only in anthrax and erysipelas, but in the study of the action of such remedies as that of Koch.

THE INVESTIGATION OF INFECTIOUS DISEASES, WITH REGARD TO THEIR TREATMENT.*

THE above was the subject of a recent address by Prof. Hueppe, before the *Verein deutscher aertizte* in Prague; it is here summarised:—

Some fundamental laws have resulted from modern researches.

The *first* is, that every substance which in certain quantities exerts a fatal action upon the protoplasm of a living cell, in less quantity has only an inhibitory action, in still less quantity is indifferent, and finally, in still less quantity, has the opposite effect from the original, viz., in stimulating and furthering protoplasmic function.

It is not meant by this that the opposite effect of very small doses goes on increasing as the dose becomes smaller, as in the "potencies" of the homœopaths. Every drug or agency has its own limit in this respect.

The *second* is that the differentiation of the tissues and their relationship within the body has a therapeutical bearing. Not only have diseases special localizations and centres, but various drugs show similar selective capacities, *e.g.*, arsenic, iodine, phosphorus; this is also shown by bacterial poisons used in protective inoculation.

Looking at the fact, that every infection-bearer is a specific cell, and that each infectious disease is localised in a definite cell-region, and comparing the seat of disease with the site of selection by its specific remedy when such exists, we are astonished to observe as the *third* fundamental law, the coincidence of these sites. This is well known when mercury and iodine are given in syphilitic disease, or phosphorus in certain bone diseases, and the law is true whether certain limits, which cannot be exceeded without injury to the patient, are exceeded or not. The principle seems to be that "*contraria contrariis*," especially as regards mineral drugs, and Koch's lymph shows us that the law is equally true in regard to *æqualia æqualibus*, or *similia similibus*.

The *fourth* fact is that the specific agent acts more intensively upon the specifically diseased tissue than upon healthy analogous structures. This is because the diseased cell is less capable of resistance than the healthy one. And the fact has caused Koch and others to misconceive the action of the tuberculine. It has been assumed that tubercle-bacilli elaborate certain products which injuriously affect living cells in their neighbourhood, and that the lymph called tuberculine contains a certain quantity of this *necro-*

* By FERDINAND HUEPPE. (*Berliner klin. Wochenschr.* Nos. 11, 12, 13, March 16, 1891.)

tizing substance, and is thus able even in healthy persons to affect the white corpuscles and cause fever, while in tuberculous people very small doses causes necrotic effects (and fever). The author and Scholl have found that cultures of tuberculæ bacilli contain tuberculine, and that no glycerine extraction is required, further that the lymph acts chemotactically on leucocytes, *i.e., irritatively, not necrotically*, in fact the white corpuscles in the blood are increased. According to Buchner, the products of all dead bacteria, pathogenic and otherwise, have this common chemotactic action, but it does not exclude the presumption that there is also a specific action upon the specifically diseased cells, of a specifically affected part of the body. This cellular theory of the action of the proteins on the fixed tissue-elements is absolutely necessary to explain the separate diseases and their peculiarities. Tuberculin is a very fine agent to detect tuberculous tissue, and establishes the diagnosis. But even here it is not infallible, it sometimes causes great reaction in non-tuberculous cases (lupus eryth. actinomycosis, lepra), and on the other hand it occasionally fails in true tuberculosis.

When microbes develop in appropriate tissue in the body, they at first form toxalbumens (toxines), which enter the fluids of the body and act on the nervous system without hindering the development of microbes. Cells in the neighbourhood are only incited to further growth. But when from over-development some of the microbes in the affected spot die, proteins are set free which act as chemical irritants. The toxalbumins are formed peripherally and are soon absorbed, causing the specific intoxications; the proteins are formed centrically, are far less easily absorbed, and their action locally preponderates. In acute infections, *e.g.*, cholera, the former are more in evidence, in chronic infections, like tuberculosis, the latter. The irritation may indeed cause complete cure of itself by reactive inflammation, hence a wall of inflamed tissue round a tuberculous nodule (in a favourable case) with necrotic centre. Pure suppuration (joints) or secondary suppuration (lungs) may follow or not. Chemotaxis (direct irritation by contact) due to bacterial products is an established fact, and while it proves the justice of Virchow's theory of direct cell-irritation, it contradicts the subsequent theory of Colnheim and Weigert, according to which cell-proliferation and tissue-production are caused only by previous necrosis of certain masses, the whole active process prior to this necrosis being quite overlooked or else disregarded. If appropriate doses of tuberculin are injected the effect will be to extend the inflammatory and protective mantle round the necrosed patch, and thus to favour healing; if the doses are larger, to increase this necrosis itself and thus do harm. In the first case the action of tuberculine resembles the natural mode of cure. Failures have arisen from commencing doses too large, giving them too often, and increasing them too rapidly—a tolerance is established and no good is done.

Tuberculosis is a chronic disease, very chronic, and it must be treated in a chronic manner, even by tuberculin. Again, phthisis, as a destructive inflammation, may go on even if the tuberculosis be cured, suppurations, once set up in the lung, being very difficult to check, and the patient's strength is usually much diminished. Hence only selected cases should be treated by Koch's method, and all others should be rejected.

The albuminoids which cause immunity and cure can be isolated from the toxalbumins, because the former resist heat far better. The specific poisonous action of certain microbes is due to substances which are not identical with the products of these microbes which cause immunity and cure. On the other hand, the substances which, when isolated, effect the latter are identical with the bacterial products which lead to a natural cure. They are "homologous" substances, and may be used either protectively or curatively.

ABDOMINAL HERNIA.*

In a recent addition to the new series of the *Sammbung Klinischer Vortrage*, the author deals with the etiology and treatment of those forms of hernia which occur in the linea alba. Abdominal or, as the author designates the protrusion, medicin hernia, is, it is held, of not unfrequent occurrence, and, as was pointed out by Richter, is often the cause of obscure and troublesome gastric disturbance. This variety of hernia usually protudes through one of the gaps formed in the linea alba by the interlacing of the aponeurosis of the oblique muscles on opposite sides of the abdominal wall. These gaps in the normal condition are very narrow, and the longest diameter ot each is in the transverse direction. The commissure of connective tissue between the recti muscles, which forms the linea alba, increases in width as it ascends to the ensiform appendix, and in cases of emaciation from exhausting disease becomes much wider.

The statements of the early writers on abdominal hernia, that this lesion is met with more frequently in women than in men, have not been confirmed by more recent observers. In ten cases collected by Malgaigne the two sexes were equally represented, and in twelve instances observed by Dr. Witzel the hernia occurred seven times in males and five times in females.

Abdominal hernia cannot be regarded as the result of any congenital defect, as it occurs very rarely indeed in infants and young subjects, and, in the majority of cases, has been met with between the ages of thirty and fifty. Several instances have been recorded in this lecture, in order to prove that abdominal hernia is very frequently of traumatic origin. In some few cases it has come on immediately after the receipt of injury, but in most cases there have been intervals of weeks and even months. It is not improbable that in some of these cases of traumatic origin there may have been a predisposition to hernial protrusion in the middle line, from emaciation of the patient and absorption of the pellets of fat occupying the small gaps in the linea alba. Two instances are referred to by Witzel which suggest that this form of hernia may occur in cases of pyloric cancer as a result of emaciation and frequent vomiting combined. Abdominal hernia is formed by the protrusion of a portion of the lac and moveable sub-peritoneal fat. This protrusion may increase steadily in size or may remain stationary for some months. As the small mass of fat becomes more and more protruded, it drags after it a funnel-shaped process of peritoneum. This process, in course of time, forms a true hernial sac, which, however, is in most cases prevented by its covering of fat from attaining any considerable size.

The sac of a medium-sized abdominal hernia usually contains a small piece of adherent omentum, but it is rarely that intestine is met with. In the exceptional

*By Dr. Oskar Witzel. (*Sammbung Klinischer Vortrage*, No. 10.)

instances in which the hernial protrusion is large, the sac, when placed above the umbilicus, may contain a portion of the wall of the stomach. In most cases the subject of an abdominal hernia which contains an adherent piece of omentum, suffers much from severe gastric disturbance and intense pain over the tumour and in the epigastrium. The difference between irreducible hernia in the upper part of the linea alba and in the inguinal region with respect to these gastric symptoms is accounted for by an explanation similar to that given by Roser of like symptoms produced by an irreducible omental hernia. The adherent omentum is drawn across the abdominal cavity so as to divide this into two parts. The stomach being confined in the upper compartment can no longer dilate to its full extent, and when distended by food drags on the hernial contents, and thus causes much pain and reflex vomiting. Witzel points out, however, that similar gastric disturbances often occur in cases in which the sac of the abdominal hernia is very small, and does not contain any omentum. Such disturbances, he holds, are of reflex and not of mechanical causation, and are due to stretching and impression of the funnel-shaped process of peritoneum that is dragged forward by the protruded mass of subperitoneal fat.

In discussing the treatment of abdominal hernia, Witzel states that antiseptic precautions being taken, the surgeon is now in a position to operate in cases of this affection, without danger and with the best prospects of a good result. He insists very strongly on a careful deflection through the layer of subperitoneal fat, and on free exposure and in strict isolation of the process of peritoneum forming the hernial sac. This, if it be small and evidently free from contents, may then be reduced. In cases of protruded and adherent omentum the sac might be opened, and the omentum be either returned in mass or cut away after the application of a ligature to its neck. The operation, it is stated, will be found a simple and easy one, except in cases of adherent intestine, in which the surgeon will find much difficulty in effecting a separation. This may be best done, Witzel holds, by opening the abdominal cavity by the side of the sac, and then, after exposure of the free portion of intestine, by dissecting from within outwards. A like course is recommended to the surgeon who has to deal with the very rare condition of a strangulated hernia.

ON THE ETIOLOGY AND PROPHYLAXIS OF SCARLATINA.*

After attending to the many obscure points in the etiology of scarlatina, and our complete ignorance of the nature and characteristics of the microbe that produces the disease, mention is made of the duration of incubation, the periods of contagion, the modes of transmission (direct and indirect, by clothing and by milk), the influence of age, of the seasons, immunity from contagion, and relapses. Then the question of prophylaxis engaged the attention of the lecturer.

Inoculation has been proposed, and certain drugs are considered to prevent the disease if used in this way. But this is by no means satisfactorily proved.

A more positive result is claimed for the giving to people who are exposed to contagion, doses of sulphuret of antimony (*dore d'antimonie*), sulphate of quinine, mercury in different forms, sulphophenate of soda, and particularly preparations of belladonna. The last-named was first used by Hahnemann for this purpose, and according to the testimony of many the results have been marvellous. For instance, Hufeland had only three cases of scarlatina out of 525 persons taking belladonna. Stievenart of Valenciennes had a still more remarkable experience during the epidemic of 1843. In a place, with from 800 to 900 inhabitants, there had been ninety-six cases of scarlatina with thirty deaths. Then Stievenart gave belladonna to 250 persons, not one of whom took the disease, while among fifty who refused to take the drug there were forty cases with four deaths. On the other hand, West cites Balfour on an epidemic, in which there were two cases among seventy-six children who had taken belladonna, and two cases among seventy-six children who had taken no medicine.

Sevestre himself had once an experience that destroyed his faith in the prophylactic action of belladonna. A little girl took whooping-cough, to whom he gave strong doses of atropine for several weeks. Then one of her sisters having taken scarlatina, she herself was attacked by the same disease in a few days, although, be it remembered, she had been under the influence of atropine for a long time. He now advises his pupils not to use belladonna; however, if the friends insist on its use, he says you may consent, on condition that the doses be small. True and really efficacious prophylaxis of scarlatina is based rather on isolation and antisepsis.

Both patients and nurses must be isolated. Even only suspicious cases must be kept apart, for the disease is contagious even during the initial stage. Isolation must be continued until the final cure; in general, for six weeks, but sometimes only for less, and again sometimes for two months. In any case, before the patient is released, there must be thorough disinfections.

Antisepsis must be carried out with minute scrupulousness and thoroughness. Nurses, doctors, and attendants should wear special clothing, or, at least, a blouse that they can throw off on leaving the sick-rooms. Frequent antiseptic washings of hands and face are necessary. The patient must be antiseptically treated with a view of destroying all the germs; linen must not leave the room except to be subjected to boiling; the commodes, &c., must be disinfected. The skin and the throat must receive particular attention; for the mouth and pharynx frequent washing or painting with antiseptic solutions to destroy germs that are expelled from the body. Antiseptic ointment should be rubbed into the skin to facilitate desquamation, which hinders the dead skin from flying about. The functions of the skin are not hindered by the ointment; on the contrary, Jamieson * asserts that this treatment is otherwise advantageous (*e.g.*, protection from chills).

These unctions must be specially administered during the few days preceding the patient's return to every-day life. There also must be ordered antiseptic baths, with sublimate, if possible, or, at any rate, with coal-tar soap. Even a rubbing-down with a sponge dipped in a solution is a good substitute for the bath. Particular attention to be paid to the scalp and other hairy parts, which are frequently neglected. In the last week, washing, unction, and baths must alternate, a bath being the last thing from which the patient, clad in

* An Address by Dr. Sevestre. (*Le Progrès Médical*, March 7, 1891.)

* *Brit. Med. Journ.* 1887, I., 1262.

disinfected clothing, must on no account be allowed to return to the sick-room. His other clothing he does not get until it has been properly disinfected.

NURSING, FEEDING, AND REARING OF THE INFANT FROM THE MOST MODERN AND SCIENTIFIC POINT OF VIEW.*

Dr. Wewer relates the most recent views on this subject. After touching upon the treatment of the infant immediately after birth, he states that the water of the bath should not be over 36 deg. C. or below 34 deg. C. during the first three months, later it may range from 32 deg. to 34 deg. C. A bath which is too hot is even more dangerous to the newly-born child than a colder one. A firm cot or cradle should be used, not a rocking one. Scholz has pointed out that the latter may induce digestive troubles, such as vomiting, etc. The crying of the child is really an important physiological function, and is not always to be stopped. Mother's milk is of course the best food—the milk of animals and artificially-prepared foods are with difficulty, or perhaps not at all, digested during the first year of life. The giving of mother's milk is attended with an immediate gain in weight during the first few days of life; with cow's milk, there is a decrease.

Thus, even if only a small quantity of mother's milk is available, it should be given during the first four to six weeks at any rate. It may be supplemented. For, in addition to the thriving of the child, the uterus resumes its usual condition more easily. The mother should not suckle the child, if there be defect in the mammary glands, or the nipples undeveloped, if she be too weak and anæmic—in case of such fevers as enteric, puerperal, erysipelas, or of convulsion, or well-marked mental disease—in osteomalacia, rickets, gout, or tuberculosis. Nor yet in syphilis, if the child is not infected. A wet-nurse may be obtained, but it is a doubtful benefit even to the child. Detailed directions are then given as to the choice of the wet-nurse, as to how she should be fed, etc. The breasts should be bathed, after suckling, with spirit and water, and the mouth of the child cleansed both before and after. The infant should be put to the breast, after the mother has quite got over the act of parturition. If it need anything before this, a little well-diluted cow's milk should be given. The infant should be put to the breast regularly every two hours in the first eight days, later every three hours, with an interval of five—six hours at night. It will get enough in a quarter of an hour. As to artificial feeding, it must consist of milk diluted with something. Bernstein has pointed out that this diluting material must contain nothing that is not easily assimilated—it must be capable of forming an emulsion—it must contain no fermentation agents—it should have a nutrition value—and it must be easily sterilised. According to Bernstein, Rufke's food is the best. Dr. Wewer recommends decoction of mucilage ("schleimabkochung"), changed for barley-water or oatmeal-water, according as child has diarrhœa or constipation. The proportion of casein to sugar is in mother's milk as 1 to 6, in cow's as 1 to 1½. Thus, if to one volume of cow's milk two volumes of a 12-per-cent. solution of milk-sugar be added, there is a product very like mother's milk. Precautions must be taken that the cow's milk is good. Along with the dilution of the milk, there is the important question of sterilising it. Hupper found two kinds of organisms in milk, and that it could be sterilised by a temperature of 75 deg. C., or by steam at 100 deg. C. Soxlet's apparatus may be used, or the modification by Eisenburg of Vienna, or that by Widowitz of Graz.

* *Der Kinderartz*, Feb. 1891.

Selected Papers.

Surgery.

CARBOLIC SPRAY IN TREATMENT OF LYMPHANGITIS AND DIFFUSE PHLEGMON OF THE LIMBS.

By Dr. E. Schwartz. (*Rev. Gén de clin. et de Thér.* March 4, 1891.)

Dr. Schwartz records two very severe cases of the above affection of the lower limbs, which he has treated successfully by prolonged applications of carbolic spray, as first suggested by Verneuil. In each of these cases free incisions, sublimate dressings, and the use of quinine internally, had entirely failed. The method adopted was the following:—The limb was placed on a waterproof sheet, so arranged that the condensed liquid could easily run off, the rest of the body and the bed being protected in a similar manner. One or two spray-producers were then placed at a distance of about a yard from the limb (nearer or further, according to the extent of the affected part), and charged with carbolic lotion (1 : 40 to 1 : 83). The spray was allowed to act for an hour, or an hour and a half, three times daily. The urine was constantly observed, and other symptoms of carbolic-acid poisoning were carefully watched for, the strength of the lotion being diminished as the inflammation subsided. In this way the affected parts were exposed, as it were, to a bath of carbolic acid, in a way which is much more convenient and generally applicable, than direct immersion. Any part which showed signs of undue redness, or carbolic-acid rash, was protected by application of vaseline.

Dr. Schwartz considers this the most satisfactory method of dealing with serious phlegmonous conditions, the cure having been, in his two cases, complete and rapid. The spray treatment should be combined with free incisions and antiseptic dressings, and the patient's strength must be maintained by proper constitutional treatment.

THE RESULTS OF TREATMENT OF PURULENT PLEURAL EFFUSIONS.

By Prof. Koenig (Göttingen). (*Berliner klin. Wochenschr.*, No. 10, March 9, 1891.)

During the last twelve years seventy-six cases of empyema were treated by the author, with ten deaths. The sixty-one simpler cases are divided:—(1) Acute cases, with "laudable" pus, thirty-six cases; (2) fistulous cases (empyema necessitatis) pus putrid or not,

sixteen cases; (3) putrid cases, six; (4) empyemata opening into the bronchi (putrid), three cases. None of these cases were tuberculous; fifteen had severe complications. Of the remaining fifteen cases, four were multiple effusions, two were tuberculous, and four were due to wounds. As to duration, 71 per cent. were cured within three months.

The principle of the author's treatment is that which dominates the treatment of abscesses anywhere, viz., to make the opening in the most dependent part, *and to ensure the constant flow of any pus by keeping this part dependent.* The back of the thorax is a bad site to select, for the diaphragm is pushed up more and more into the thorax. The side of the thorax is best, the patient afterwards lying on that side, and the opening is best made somewhere about the fourth rib in the axillary space, the site chosen of old. It is preferable to remove a portion of the rib. Chloroform is only used when there is much debility and dyspnœa. The bandage afterwards embraces the whole thorax and the arm of the diseased side. The patient, well supported by pillows, lies on that side, a little inclined sometimes to the abdominal, sometimes to the dorsal position.

During the first two or three days, the patient four times has the legs and pelvis raised by an attendant, so that he is upon his shoulder. The body is rotated somewhat at the same time, both dorsally and abdominally, so that the pus may flow into the dressings, which are not changed for some days, whereas the raising is done two or three times a day. The thermometer controls the after-treatment, and indicates retention of pus. The opening must not be allowed to become blocked. No disinfecting fluids are injected, and a thin, short tube suffices.

Sometimes the attendant supports the upper part of the body over the side of the bed, so as to be in a lower position than the wound for a short time. These movements prevent pus from accumulating in the cavity. All the simpler cases recovered under the above treatment.

SPERMIN IN SURGICAL PRACTICE.

By Dr. Nikolai A. Veliaminoff. (*Vratch*, No. 10, 1891, p. 283.)

Dr. Veliaminoff, of St. Petersburg, one of the foremost Russian surgeons, says that he resorted to Poehl's spermin in four cases of grave and prolonged operations in extremely exhausted patients. The results of the injections (under the skin) were uniformly brilliant:—(1) The patients bore the operation in an excellent way. (2) Notwithstanding very large amounts of chloroform used (in one case, in which the operation lasted two-and-a-half hours, as many as six ounces of the anæsthetic agent were spent), the cardiac action left nothing to be desired. (3) The patient's state in the after-period remained reproachless all through.

THE TREATMENT OF CLUB-FOOT.

By Dr. Lucia R. Thompson. (*Med. and Surg. Reporter*, Philadelphia, Mar. 7, 1891.)

This short paper discusses the past and present treatment of club-foot deformity. In former times, when surgeons were afraid of the knife, such measures as resection of the tarsus, tarsal osteotomy, open incision, and tenotomy were unknown. Antiseptic and aseptic surgery, however, have rendered operative treatment precise in its indications and certain in its results. Notwithstanding the many theories as to maternal impressions, compression in the uterine cavity, lesions of the nervous system, heredity, and so on, yet we must admit that we "are ignorant of the causation of club-foot, and unable to give an explanation of the phenomena of its development." The writer concludes that the only rational treatment is a combination of operative and mechanical means. The best time for undertaking operation is, according to many authorities, before the end of the first year, while the ends of the bones are still largely cartilaginous. Prof. Wilson, of Philadelphia, advises tenotomy with subcutaneous division of fascia in mild cases. After operation, the foot is placed in the corrected position by manual force, and retained in place by a light plaster-of-Paris splint. Dr. Phelps has reported one hundred and ninety-six cases treated by open incision since 1888. The advantages of that method are apparent. The surgeon is master of the position. He is able to divide all contracted tissues, to tie all severed arteries, and in inveterate cases he can cut the ligaments. Dr. Thompson speaks highly of Dr. Morton's operation. He recognises the astragalus with its forward dislocation as a check to the action of the joint, and therefore removes it, with results that justify the procedure.

EMPHYSEMA FOLLOWING CATHETERISATION OF THE EUSTACHIAN TUBE.

By A. L. Kenny, M.B., B.S. (*Australian Medical Journal*, Jan. 15, 1891.)

The patient in this case was a man, aged thirty-two, who had been deaf for eighteen months owing to defects in the conducting apparatus. The left Eustachian tube was constricted, the inferior turbinate bones were enlarged behind and there were granular masses in the pharynx. The growths were removed by the galvano-cautery, and catherisation and dilatation of the tubes carried out for some time, but after the passage of a catgut bougie on one occasion, and subsequent attempts by the patient at self-inflation of the tubes, symptoms of collapse and dyspnœa and syncope ensued, for the relief of which the most active measures were demanded. A swelling appeared on the left side of the neck, below the ear, and behind the ramus of the lower jaw, which gradually increased in extent, and was attended with the gradual development of the symptoms noted. Crepitation on palpation over the whole front region of the neck, from the ears to the chest, which was clearly due to emphysema of the subcutaneous cellular tissue, originating in the neighbourhood of the Eustachian tube and extending into the mediastinum. By its interference with respiration and cardiac action, the distressing condition of the patient was produced, and the cause of the occurrence was doubtless a rupture of the Eustachian tube by the bougie passed through it, and subsequent enlargement of the tear by the patient's efforts at inflation. The patient was relieved by taking cardiac and respiratory stimulants, hot fomentations to the neck, boroglyceride as a gargle and nasal douche. The emphysema gradually disappeared, though slight crepitation could be felt for some three or days under the chin. Dr. Kenny comments on the rarity of these cases, of which but the briefest mention is contained in the text-books of aural surgery.

EXTIRPATION OF ARTERIO-VENOUS ANEURISM.

By B. Farquhar Curtis, M.D. (*American Journal of the Medical Sciences*, Feb. 1891.)

Improvements in modern surgical methods, by supplying suitable ligatures and dressings, have, in the author's opinion, amply justified the operative treatment of arterio-venous aneurisms, which formerly were not considered to be amenable thereto, because of the risks of hæmorrhage, gangrene, and pyæmia involved in their removal. Two cases are described in which removal of the tumour, one a popliteal and the other a femoral aneurism by extirpation, was practised, in both with successful recovery. The mode of procedure consisted in leaving a reservoir of blood around the tumour to facilitate dissection, and application of Esmach's tourniquet to control hæmorrhage during the operation. The aneurism was completely separated from its connections, all the severed vessels firmly ligatured, a drainage-tube inserted, and the wound closed with catgut sutures. Natural circulation was speedily restored, being complete in four days in the case in which it took the longest time, and healing progressed uninterruptedly. The duration of the operation in the case of popliteal aneurism extended to two and a half hours. Dr. Curtis is of opinion that extirpation should be resorted to whenever compression fails its object, save in cases where the internal jugular is involved, or where ligature of the common femoral artery and vein would be required.

GASTROSTOMY FOR ŒSOPHAGEAL STRICTURE.

By John Duncan, F.R.C.S. (Ed.). (*Edinburgh Medical Journal*, April, 1891.)

The operation has been performed several times successfully by the writer, and twice with a negative result. The cases which recovered lived respectively for eleven, ten, five, four, and three months; and in all rapid increase of weight took place. Mr. Duncan's method of procedure is as follows:—An incision is made in the wall of the abdomen, with the usual precautions, preferably parallel to the rib-edge. A finger is then passed along the viscus, which is thought to be the stomach, until, by feeling its passage through the diaphragm, its identity is assured. In some cases the œsophageal growth may be felt at this stage, and a forecast of the probable future of the case arrived at. The next step is to fix the stomach to the abdominal wall by four encircling sutures, which penetrate the whole thickness of the wall, and by numerous radiating stitches which are passed through the skin and peritoneum only. The serous and muscular coats of the stomach, however, must be included in both series of sutures. A small opening is then at once made in the stomach, into which is introduced a soft rubber tube, equal in size to a No. 8 catheter: and Mr. Duncan particularly insists on the importance of making this opening at once rather than delaying it for even a single day, attributing the unfavourable termination of many cases to the deferment of the opening. Small but frequent doses of food are administered forthwith, and in order to guard against septic infection of the peritoneum, the tube is kept surrounded by boracic acid, and its orifice securely closed by a clamp. The author asserts that there is no real tendency to egress of fluid from the stomach, and that in none of his cases has there been any inflammatory reaction. Mr. Duncan refers to the infrequency with which malignant stricture of the œsophagus can be effectually relieved by œsophagostomy, and claims for gastrostomy a much greater proportionate efficiency.

A NEW PROCEDURE IN THORACOPLASTY.

By M. Quénu. (*Le Progrès Médical*, March 7, 1891.)

M. Quénu lately exhibited to the *Académie de Médecine* a patient who had suffered from an old pleurisy and a pleural fistula, whom he had cured by a new method of thoracoplasty. This new operation seems quite rational, and more admissible than that hitherto adopted in treating purulent pleurisy. M. Quénu, starting from the theory that the only treatment of old abscesses consisted in scraping out (*curettage*) and working out the cavity and perfect reunion of their walls, came upon the idea of removing the portion of the thoracic wall corresponding with the abscess, without causing the costal ruin characteristic of Estlander's operation.

M. Quénu's method is this:—He separates the portion of the costal screen which it is necessary to deplace, and turns inwards towards the deep seat of the pleural abscess, separating it from the thoracic framework by two large vertical resections of bone, bearing on the extremities of the middle ribs. In this way the removed part of the wall forms a trapeze-shaped door, which can be turned inwards, hanging on two vertical hinges formed of flesh and skin. Estlander had a similar idea, but never carried it into practice. Quénu deserves the merit of having tried the method, and had the good fortune to cure in a few weeks a patient who had been suffering for years. Certainly, in order to cauterise the purulent sac, it was necessary before turning in the flap of wall to resect a considerable portion of a rib in the immediate neighbourhood of the fistula. But this was not to be compared with the quantity of osseous tissue which required to be removed according to Estlander's procedure. M. Quénu has lately drawn attention to the fact that his method admits of the treatment of old pleural abscesses that are situated far back. It would be easy to make a vertical resection quite close to the lateral posterior of the vertebral column. The two longitudinal incisions, whether made in front or behind, do not belong to the class of simple linear osteotomy. If they were thus carried out, the deep wall of the abscess could not be reached. They are formed of short costal resections from 1½ to 2 centimètres in length.

This is M. Quénu's own description of the operation. A thoracic *plastron* is made moveable by resecting a small portion of bone at the two extremities of each side. A vertical incision of 15 centimètres is made behind the posterior axillary line, and a transverse cut made. The ribs are resected with Favabeuf's costotome to an extent of 2 centimètres. The resection is carried over the fourth, fifth, sixth, seventh, eighth, ninth, and tenth ribs. A second anterior vertical incision is carried behind the nipple. Six ribs are resected for 1½ or 2 centimètres. The *plastron* is then moveable by pressure. Then by an incision the pleural fistula is united with the anterior incision; the subjacent rib is completely resected and the pleura incised. The pleural cavity is *curetted*, then touched with chloride of zinc. The three incisions are sutured, the posterior and the horizontal being drained. Dressing: dry iodoform, one or two days after.

SUPRAPUBIC *V.* PERINEAL CYSTOTOMY.

By H. O. Walker, M.D. (*The Times and Register*, Jan. 9, 1891.)

In this communication the author expresses the opinion that the perineal operation is both simpler and safer than the suprapubic, and that it is more rapid in its results; at the same time he regards it as being much better adapted to a large number of cases than the method it is proposed to replace by it, and he illustrates the arguments adduced by citing five instances of the operation in his own practice. Only one of these terminated in recovery, the subject being a boy, seventeen years of age, who had suffered from painful micturition since he was two years old. Mulberry calculus weighing three hundred and twenty grains was removed from the bladder, and a rubber catheter left in the viscus that the urine might be passed through it. Owing to the pain caused by this instrument it had to be removed, and for some time urine flowed continuously through the wound, giving rise to septic infection. Complete healing, however, eventually occurred, and three weeks after the operation the patient was able to leave the hospital, with power to hold water for fully four hours. Of the remaining cases one was epithelioma, the second chronic cystitis, and the third and fourth prostatic enlargement with inflammation of the bladder. As bearing on the special bias of the author, the following sentence, which makes the second paragraph of the essay, is of interest:—"An all-wise Providence evidently intended that the bladder should be emptied from its most dependent part."

Medicine.

ON RENAL HÆMOPHILIA.

By Dr. Senator. (*Wiener Mediz. Wochenschr.*, No. 11, 1891.)

Dr. Senator described the following case at the December meeting of the Berlin Medical Association. Towards the end of February, 1890, he was consulted about a young lady, aged nineteen years, who had long suffered from hæmaturia. This first appeared in 1887, after menstruation, but had probably existed before that time. It lasted some weeks and then stopped, till 1889. In the meantime the patient, who had become anæmic and had a cough, had intended to visit a southern health-resort, when there suddenly set in with great violence renewed bleeding, this time unconnected with menstruation. This bleeding still continued when the patient was first seen by Senator. She was, though apparently strong and well-built, extremely pale. The internal organs, particularly the lungs and kidneys, seemed to be healthy. In 1887 already, after gynæcological examination, it had been found that the organs of the pelvis were normal. At that time it had been considered that this was not a case of secretion of blood, but one of hæmoglobinuria; however, later on, indisputable traces of blood were found in the urine. Micturition was painless and somewhat more frequent than normal,—a mixture of blood and urine, the proportion of red and white blood-corpuscles being normal,—no pus corpuscles nor particles of tissue. Once only were uric acid crystals found. No fever. Senator believing from this that the usual causes of hæmaturia (tumour, tuberculosis, gravel, stone, &c.) were excluded from consideration, attributed the mischief to hæmophilia. It appeared further that the patient's father, who had married his cousin, had suffered much from hæmorrhage, and her brothers and sisters bled much from the nose.

The patient was sent home with the advice to avoid irritating diet, and to keep very quiet. But the bleeding recurred with greater violence than ever, and she returned to Dr. Senator. On examination, the bladder was found to be normal, but from the right ureter blood was observed to be trickling, so that it was evident that the seat of the hæmorrhage was in the kidney. As it was imperative to stop the hæmorrhage, Senator removed the bleeding kidney. The wound healed most favourably; there was hardly any fever even during the first days, and in less than three weeks the patient could leave her bed, and was dismissed in four weeks. For a few days after the operation there were traces of blood in the urine, but after that all was normal. The patient is now well, and her complexion good The remaining kidney performs the functions of the extirpated one. Microscopic examination of it later showed no organic cause of the hæmorrhage. Senator believes that, as hæmophilia has in very many cases a local seat, it is of importance to resort to local treatment more than has been the custom. As in this case, when the seat of the hæmorrhage is in the kidney, nephrectomy is the only means of saving life.

THE OPHTHALMOSCOPE IN DIAGNOSIS.

(*La Médecine Moderne*, March 19th, 1891.)

The modern tendency towards extreme specialisation is apt to produce a general neglect of subjects the medical man can ill afford to dispense with. This is notably the case with ophthalmoscopy—the practice of which, besides its intrinsic value, yields much of real diagnostic significance in the following instances:—

(1) *Cerebral tumours.*—On examination of the fundus œdema of the optic disc or engorgement resulting from augmented intra-cerebral tension will be discovered. The circumference of the swollen disc appears indistinct owing to the œdema of the adjacent tissues. Atrophy set in later.

(2) *In tubercular meningitis.*—The same lesions appear as are found in tubercle of the choroid—the yellow patches about the size of a pin's-head in the region of the disc. In these miliary tubercles will often be found the first indication of the disease.

(3) *Cerebral hæmorrhage* gives rise to œdema of the disc. This is not of so much diagnostic importance as the presence of minute retinal hæmorrhages. These hæmorrhages are localised about the optic disc, and indicate an atheromatous condition of the arteries, which may prepare us for subsequent cerebral hæmorrhage. Such minute extravasations occur also in leukæmia, pernicious anæmia, purpura, and scurvy, but are then situate towards the equator of the eye. Their presence serves to distinguish between true chlorosis and primary anæmia. In leukæmia the fundus is citron-coloured with whitish striæ.

(4) *Locomotor ataxy* and *disseminated sclerosis* are both accompanied by atrophy of the optic disc.

(5) In *syphilis* the fundus appears of a blueish tint, and opacities are found in the posterior segment of the vitreous, but patches of degeneration are not to be detected.

(6) In *Bright's disease* the retina often yields premonitary symptoms. The optic disc is at the first congested, of a reddish-grey colour, and the edge is indistinct. The veins are increased in size, and are tortuous. One also observes the hæmorrhagic spots occurring in the centre of patches of degeneration. The yellow patches are darker, and are surrounded by white rays of a glistening appearance.

(7) In *heart disease* the phenomena are variable. Visible pulsation of the central artery of the retina indicates either aortic or mitral insufficiency. Venous pulsation coincident with the arterial systole sometimes occurs in the healthy, but suggests tricuspid incompetence. The negative results of an ophthalmoscopic examination also have their value, as is readily apparent.

ENDEMIC NEURALGIA IN VIENNA.

(*Wiener Med. Wochensch.*, No. 11, 1891.)

Dr. Moritz Benedikt has for thirty years observed the recurrence of endemic supra-orbital neuralgia in the period between the end of winter and the beginning of spring. In most years the endemic disease appears in the form of peripheral neuritis. The pain is continual during the attack. Very seldom the neuralgia is of an eccentric character with momentary shooting or pricking pain. This far the malady has been extremely common and violent. People living near the Danube are chiefly affected by it. Though it is without doubt an infectious disease, no cause of infection can be traced. Benedikt advises his patients to avoid walking in the neighbourhood of the river. At first the disease might appear to be a kind of intermittent fever, but there is no fever nor swelling of the spleen. It is remarkable that quinine, antipyrin, and antifibrin, while they give some relief and may put off the attack for a time, only cause it to be more violent in the end, and may even bring about serious affection of the brain. Preparations of salicyl are also of no avail, but rather injurious. The specific treatment of this disease is the giving of iodine salts, *e.g.*, 1 gramme daily of iodide of sodium. Perhaps the combination of this dose with a double dose of salicylate of sodium is still more effectual. Galvanisation is another specific. In peripheral forms of the disease, the electrode is applied to the painful part while the other pole is held to the back of the neck. In the eccentric form the sympathetic nerve is galvanized.

A PECULIAR FORM OF NEURALGIA.

By Prof. Benedikt. (*Semaine Médicale*, March 25, 1891.)

Prof. Benedikt, of Vienna, has described a peculiar form of supra-orbital neuralgia, probably of infectious origin, which appears endemically at that period of the year when winter is giving place to spring. The affection is characterised by the presence of painful points, and by paroxysmal pains appearing at regular or irregular intervals. In the majority of cases this neuralgia is bilateral, and it is frequently complicated, either at first or later on, by neuralgia of the other branches of the fifth pair, of the occipital nerves, and of the superficial cervical plexus. Occasionally it is accompanied by paralysis of the seventh nerve.

Benedikt believes that this form of neuralgia has no connection with malaria, a belief confirmed by the fact that there is neither fever nor enlargement of the spleen, and that quinine is of no avail in its treatment. Other so-called "antiperiodics," such as antipyrine, phenacetine, and acetanilide, are equally useless, and narcotics are positively injurious, as they have a tendency to turn the disease into a chronic one.

The specific remedy is iodide of sodium given in the dose of fifteen grains daily, and salicylate of soda (thirty grains daily) may be added with advantage. Under this treatment the pain rapidly diminishes and disappears, but if some neuralgia still persist galvanisation is of service.

Very severe cases should be treated from the first with the iodide and galvanisation combined.

THE USE OF SULPHONAL IN THE INSANE.

By Dr. G. Roubinovitch. (*Le Progrès Médical*, Feb. 28, 1891.)

The author has used sulphonal in a large number of patients suffering from various mental diseases. The following are the conclusions at which he arrives:—The best mode of administration is to give it at the commencement of the second meal in as much warm liquid (soup, etc.) as possible. Given in this manner, in a dose of from 12 grains to 45 grains, according to the individual indications, sulphonal is very useful against insomnia in most mental affections; failure resulted only in two cases, one of cerebral apoplexy, the other of general paralysis. It is best to avoid giving large doses on several successive days; it is preferable to give a large dose on the first day, and only a quarter of this in the succeeding days. A tolerance does not appear to be easily set up.

As to the intimate mechanism of its action, the author does not commit himself to any definite theory, but whatever may be its mode of action it is a useful soporific, very valuable in the treatment of the insane. It should, however, be given with caution in inflammatory affections of the meninges or the cerebro-spinal axis.

THE SYMPTOMATOLOGY OF BRAIN-TUMOURS.

By Dr. N. Schoenthal. (*Berliner klin. Wochenschr.* No. 10, March 9, 1891.)

The following case is remarkable from the occurrence of typical hysterical convulsions as the chief and almost the sole symptom. The tumour was found to be situated in the medullary substance of the left frontal lobes; it was of considerable size, viz., that of a hazel-nut. It was a glioma, nowhere sharply circumscribed, and penetrated by large ectatic vessels and hæmorrhages. Of the two groups of symptoms of cerebral tumours, the first group, viz., of focal symptoms (Head-symptoms, Griesinger), entirely failed in this case. Of the second group, viz., the diffused general symptoms, very few were present, for headache, giddiness, vomiting, pupil-statis, and slowed pulse were all absent. The only symptoms were mental derangements and convulsions. The patient was a young man, aged nineteen. Another symptom was a remarkable increase of urine. The pulse was always frequent, and the patellar tendon-reflexes were increased. The patient had had convulsions in infancy, also at the age of five years with loss of consciousness, and with

pallor. By the age of thirteen there were half-yearly intervals between the fits. At the age of fifteen he went into business, but was peculiar and irritable. Two months before admission he had become subject to hystero-epileptic attacks, which finally occurred several times a-day, consciousness being retained. He died a fortnight after admission, from debility and pneumonia.

ON URINE-CASTS AND NEPHRITIS.

By Dr. Ising (Kissingen). (*Deutsche med.-Zeitung*, March 23, 1891, No. 24.)

Three cases were examined. viz., two of nephritis after diphtheria in children, and one of nephritis from chill in an adult, with the following results :—

(1) Subjectively, no kidney-disease was pointed out, except that the adult occasionally complained of discomfort in the loins. (2) The urine showed nothing abnormal, even under the microscope. (3) The urine, both day and night, was free from albumen. (4) Its quantity was not lessened. (5) Its colour was a full yellow, sp. gr. 1020—5, and there was a fine cloudy sediment on long standing. (6) The day-urine showed less sediment than the night-urine. This sediment consisted of a little mucus, together with bladder-epithelium, and urate of soda. (7) The sediment of the night-urine showed in its upper and middle layers much renal and renal-pelvic epithelium, together with a little bladder-epithelium and mucus, in its lowest part less epithelium, much mucus, and (in each of ten preparations) from five to eight cylinders, mostly covered with cells and detritus. Their shape was that of a test-tube, being well-rounded at one end, or else tubular sections, more rarely small cylinders with slender processes were seen. Under treatment, diuretics, warm clothing, a simple diet, warm baths, and KI. 0·5 grm. per diem, the epithelium, mucus, and cylinders gradually disappeared, the latter becoming first hyaline. The author next puts the following questions and answers them :—

(1) What was the form of the kidney disease? *Ans.*—The epithelium of the urinary canals was alone involved, for if the glomerular epithelium had been affected, albuminuria; and if the cortex or medullary substance had been involved, this would have caused diminished secretion. The etiology gave further proof, by exclusion.

(2) Why were there no subjective symptoms? Because kidney-disease may go on to an advanced stage without disturbance of the general condition.

(3) Why was no albumen found? Because the casts did not afford enough for recognition by the usual tests, and disease of the epithelium of the tubules does not cause much albuminuria (Leube, Salkowski).

(4) Why was the urine not diminished? Because the intertubular tissue was not compressed.

(5) What was signified by the epithelium? Nature's effort to repair damage by increased flow of blood and increased cell-formation.

(6) Why does albumen coagulate in the tubules? Because dead or altered cells favour coagulation, while living cells prevent it. But this does not explain why coagulated albumen is not found in glomerular disease, although albumen passes through in large quantity.

(7) How does the form of the cylinder arise? The test-tube shape is due to the pushing forward of the coagulated albumen by the urine. If the end be pushed out, a cylindrical section roof.

(8) Why was the day-urine free from cylinders? Because with increased urination there was no time for cylinders to form.

(9) What conclusions may we draw? *Ans.*—Microscopical examination of the urine, even when there is no albuminuria, may enable us to prevent severe kidney-disease by prompt measures, and every physician knows how powerless we are against advanced kidney-disease.

A CASE OF CEREBRAL TUBERCULOUS TUMOUR, CAUSING COMPULSORY MOVEMENTS.

By Prof. C. A. Ewald. (*Berliner klin. Wochenschr.* No. 10, March 9, 1891.)

A boy, aged seven years, was brought to hospital in December, 1890. A few weeks before he came under notice he suddenly became ill. He had gone to school one morning as usual, but acted strangely, and went to the station saying he wanted to go to another town. He was taken home, where he had severe fever, after which the tongue, with the left shoulder and arm, "jerked" occasionally. He emaciated, and the left arm and leg became weaker. The involuntary movements resembled those of athetosis, but were more violent. Sometimes they ceased, beginning again when the boy tried to move the limbs himself. They were not like "intentional movements," or the atactic motions seen in multiple sclerosis. The whole facial region, except the frontal, showed slight paresis. The boy's character altered altogether, he was now extremely peevish. There was no derangement of the senses or sensibility, and the retinæ were normal. Faradic irritability normal, galvanic slightly lowered. Nothing else abnormal. Hectic fever soon developed itself, and the boy died in a few weeks. The *autopsy* showed a tuberculous tumour situated in the right thalamus opticus, and involving the middle and posterior portions thereof, with the adjoining inner capsule. It measured a little more than 1½ cm. in diameter, and was uniformly caseous. Smaller tumours were found, nearly 1 cm. across, viz., one close under the cortex of the *left posterior central convolution* by the side of the great longitudinal fissure, one in the right cerebellar lobes, one on the under surface of the right temporal lobe, one in the middle of the left middle frontal convolution, and one at the end of the left sylvian fossa.

SYPHILITIC PLEURISY.

By Dr. Nikonline. (*Semaine Médicale*, March 25, 1891.)

Syphilitic lesions of the pleura have been, no doubt, carefully studied from the standpoint of pathological anatomy, but clinically they have not perhaps received quite so much attention. According to the writer, who is assistant in the clinic of Prof. Zacharine, at Moscow, syphilitic pleurisies may be divided into three distinct groups :—(1) Pleurisies caused by the extension of pulmonary syphilis, or *Syphilitic Pleuro-pneumonia ;* (2) Pleurisies secondary to syphilitic periostitis of the ribs, or *Syphilitic Peri-pleurisy ;* and (3) *Primary Syphilitic Pleurisy.* The two last varieties are the least known, and the writer describes a typical case of each.

The first was in a man, aged forty-five, who had no recollection of having had a chancre, but who had suffered twelve years before from intense pain in various joints, which had only yielded to specific treatment (mercurial frictions, followed by iodide). He had lately complained of severe pain in the side, dry cough, and fever. This condition had lasted for three months, when the patient, considerably emaciated and much exhausted, first came under observation. A fulness was noticed below the right scapula, about as large as the hand, and somewhat painful on pressure. The skin in this situation was œdematous, and the ribs could not be felt distinctly; dulness on percussion, and diminution of respiratory murmur, which was totally abolished at the lower portion of the swelling. Several punctures having demonstrated the absence of any purulent collection, a diagnosis of syphilitic periostitis and pleurisy was made, and the patient rapidly recovered under treatment by iodide of sodium.

The second patient, aged forty, had contracted a chancre, followed by secondaries, nineteen years previously. During the last few months he had been tormented by a continual dry cough, accompanied by dyspnœa, moderate fever, and thoracic pains. No dulness or percussion, but auscultation revealed the presence of loud pleuritic friction disseminated over both lungs. No moist sounds. Ordinary methods of treatment having failed to give relief, the writer diagnosed primary syphilitic pleurisy, and prescribed iodide. In a few weeks all pain, cough, fever, and other abnormal phenomena had disappeared, and complete cure soon followed.

TROPHIC DISTURBANCES IN HYSTERIA.

By M. Pitres. (*Le Progrès Médical*, Feb. 21, 1891.)

M. Pitres says that up to recent years hysteria was not supposed to give rise to trophic disturbances. Œdema, however, shows itself often enough in hysteria—but rarely without some motor disturbance. The following case was unaccompanied, however, by any such trouble:—

Case I.—Occurred in a girl, aged twenty years. The swelling, which dated, with an intermission, from two months before, affected the left foot and leg. It did not pit on pressure, and was worse at night. There was analgesia of the left side of the head, and the field of vision was concentrically limited. There were other evidences of hysteria, including a rapid cure, after the application of a magnet. This neuropathic œdema is due to vaso-motor paralysis.

In the next case the opposite condition (vaso-motor spasm) was present:—

Case II.—Woman aged 25. There was a flaccid paraplegia which had come on after an abortion. There was total anæsthesia of the feet and legs. When pricked these parts did not bleed, and the surface temperature was only 25 deg. C. The onset of the paraplegia after a mental shock, the absence of atrophy, the distribution of the anæsthesia, the intact condition of the rectum and bladder, the concentric limitation of the field of vision and the mode of cure, showed the hysterical nature of the disease.

The next case, M. Pitres says, is one of primitive hysterical atrophy.

Case III.—A man aged twenty-three. The left upper extremity was affected with a well-marked muscular atrophy, and the hand showed a well-marked claw. The atrophy began five years before. There were large patches of hyper-æsthesia over the upper part of the trunk, head, and right arm. The mucous membranes were also hyper-æsthetic. The fields of vision were very limited. The diagnosis is important, inasmuch as if the disease is hysterical in nature, the patient will recover.

Case IV.—This is an example of diminished electric reaction to galvanism and faradism. It occurred in a hysterical patient, aged forty-six, who had right facial paralysis. The muscles raising the lower jaw were, however, rigid. It ended in recovery.

Case V. illustrates the fact that these trophic changes may end in destruction of tissue. It occurred in a woman aged twenty-five. She had suffered from several attacks of paralysis lasting for a varying period. Now she has right hemiplegia and hyper-æsthesia of the skin and mucous membranes. Concentric limitation of the fields of vision and occasional convulsive attacks. Three years ago, she had œdema of left cheek and gums, and without suppuration the molar teeth fell. These teeth were not carious. M. Pitres admits that the fact of this condition not having been seen, is a serious objection, but he thinks there is nothing improbable about it.

POLYURIA.

By Prof. Potain. (*L'Union Médicale*, 1891, No. 17.)

The author reports a case of polyuria in a man. About 5½ litres of urine of low specific gravity were passed in the day. This quantity was too large for it to be due to granular kidney. The urine contained no sugar. About the normal amount of urea was excreted in the twenty-four hours. The patient was a sailor, and had had ague and also rheumatic fever. A short time ago he suffered a severe shock from the bursting of a shell, a part of which struck him on the back of the neck. His organs are healthy. He has, however, diminished sensation to pain over the left forearm and pharyngeal anæsthesia. His fields of vision are much diminished. He drinks about five litres of liquid in the day. It has been said that the arterial pressure is increased in polyuria, but a distinction must be made between polydipsia bringing about polyuria by increasing the blood-pressure, and primary polyuria accompanied by diminished pressure, and bringing about thirst owing to the insufficient amount of liquid in the organs. The quantity of water given off by the skin and lungs is diminished. Most patients with polyuria waste, and the hæmoglobin in the blood is diminished. The causes of polyuria are varied. It has been noted after injuries to the head. Febrile diseases may act as a cause. M. Potain says he has seen it after influenza. Certain people have noticed it after a chill. In the above-mentioned case there were several causes—injury to the head and general shock to the nervous system in a person with a very marked neuropathic tendency. In addition to which, he had been several times immersed in the water, and indeed the malady appeared shortly after such immersion. Severe polyuria is hardly ever seen except in the child. In the adult the prognosis is therefore much better. Before commencing treatment the thirst must be controlled. One is only polydipsical because one passes urine too quickly. With a patient with polyuria, hardly has he drunk anything than he urinates. It has been said that it is the state of the nervous system, which produces at the

same time thirst and desire to pass water, hence probably the good effects of belladonna. Valerian is very useful. Opium, turpentine, ergot, tannin, and jaborandi have been used. Hydrotherapeutic treatment is promising, but a good reaction is necessary. Electricity has been tried, and occasionally antipyrin has been very efficacious.

CASE OF MELANOTIC SARCOMA WITH MELANURIA.

By Dr. R. Saundby. (*Birmingham Medical Review*, March, 1891.)

The patient, a woman aged forty-one, dated her illness from about a year ago, during the past five months of which she had kept her bed. When seen she complained of pain in the abdomen, flatulency, and vomiting. The abdomen was unsymmetrically enlarged, and the liver extended down to Poupart's ligament on the right side. The urine was small in quantity, sp. gr. 1020, acid, of a dirty greenish-brown colour, which became black on standing. A faint trace of albumen, no sugar or blood. Her left eye was disorganised from an injury received in childhood. At the necropsy the liver weighed 14 lbs. There was almost an entire replacement of liver substance by large melanotic growths. The left kidney showed one or two minute melanotic points on the capsule. There were no growths in its substance nor yet in the right kidney. From the shrunken and atrophied left eye was found growing a melanotic tumour, about the size of a bantam's egg. There were also disseminated growths in other parts. Dr. Saundby says that melanotic tumours mostly originate in tissues containing pigment, and that in all probability it started in this case from the remains of the choroid in the shrivelled eye. The symptoms of importance were:—(1) Uniform enlargement of liver, (2) absence of jaundice, ascites, or splenic enlargement, (3) pain referred to the stomach, and (4) the dark urine. There follows an analysis of the urine, and an interesting account of the melanosis and melanuria. Dr. Saundby finishes by saying, that in the black reaction given by ferric chloride with urine containing melanin, we have a great diagnostic help in cases of melanotic sarcomata.

MUSCULAR RHEUMATISM AND ITS TREATMENT.

By Prof. Potain. (*L'Union Médicale*, 1891, No. 22.)

The following case occurred in a man aged twenty-two. He had pain in both the upper, and, to a less extent, in the lower extremities. The pain was in the substance of the muscles. In the neck, where it was most marked, the sterno-mastoid was most affected; in the forearms, the flexor muscles; and in the legs, the upper and outer part of the thigh. Pain was not continuous, and was worse when the muscles were put into action. The case is exceptional in that muscular rheumatism is usually limited to one muscle, or a small group of muscles. There is no absolute sign by which the disease can be diagnosed.

In the course of acute rheumatism, or, more often, in the subacute form, the fibrous or tendinous extremities of the muscles are especially involved, but sometimes the body of the muscle. The term "muscular rheumatism" must not be misused for the atrophy sometimes found in rheumatism, about the joints.

Its connection with articular rheumatism is easily seen when it occurs in the course of the latter disease. Again, muscular and articular rheumatism may occur in the same individual under analogous circumstances. The above-named patient had acute rheumatism three and a half years ago. It may be a nice point to make the diagnosis from other maladies with diffuse pains.

Salicylate of sodium is successful, but not so distinctly so as in the acute articular form, and especially if this muscular affection be chronic. Here antipyrine may be useful. Wet-cupping, scarification, and faradisation are often efficient. Injections of pure water have succeeded. If these fail, the application of heat, douching, and massage should be tried. Prognosis is good, but pleurisy, and even pericarditis has supervened. The pulse is sometimes irregular, and palpitation complained of; but it is impossible in the present state of our knowledge to say whether cardial manifestations are developed after muscular rheumatism. The above-named individual had an exo-cardial murmur. His illness began with a sore throat, and there was temporarily some albumen in his urine.

PHLEGMASIA ALBA DOLENS IN A CHLOROTIC AND ANÆMIC GIRL.

By Dr. Tripet. (*Rev. Gén. de Clin. et de Thérap.* March 4, 1891.)

Phlegmasia dolens is not often met with apart from the puerperal state, but Dr. Tripet records a case which occurred in a virgin. According to the recent researches of M. Widal, the thrombus formed in phlegmasia alba has, like the other forms of puerperal infection, only one pathogenic agent, the streptococcus pyogenes. In the case now mentioned, there had been for some days previously a profuse mucopurulent discharge from the uterine mucous membrane; there was, in fact, a slight desquamative cervical endometritis. M. Tripet believes the true explanation of the subsequent condition of his patient to be that this slight breach of surface allowed the entrance of some of the microbes always present in the vagina, which, under the peculiar conditions, acquired pathogenic powers. The symptoms were in every respect similar to those of the disease following pregnancy, not simply an œdema confined to the lower part of the limb, which is a common symptom of anæmia.

FORMATION OF SUGAR IN THE ANIMAL BODY, AND ITS SIGNIFICANCE.

(*Wiener Med. Wochenschrift.*)

Sugar increases in the liver after death; and for some hours, till decomposition sets in, it remains stationary.

During the time that *sugar* increases, *glycogen*, however, does not diminish.

How can these facts, noticed by so many observers, be accounted for?

The liver contains more sugar than any other organ, which in fact (the different organs) only contain such traces as can be accounted for by the presence of blood.

The function of liver does not die with the animal, but its vitality lasts some time after; so that its cells continue to be active in the sugar formation.

Pavy's view, that the increase of sugar was due to a transformation of the *glycogen*, does not hold good

now that it is quite proved that the latter remains stationary, whilst the sugar is increasing.

Not only has this been proved in animals, but also in man: thus the liver of an *executed* man contained, three hours after death, 1·6 per cent. of sugar; nine hours after, 2 per cent.; twenty-six hours after, 2·17 per cent.; and fifty hours after, it had not increased further.

In well-nourished men, *glycogen* does not attain more than about 4 per cent.; that is, something like what prevails amongst *carnivoræ*. It is also an admitted fact that sometimes no *glycogen* at all is found on death, whilst there is sugar; and one naturally asks, whence comes this *sugar?*

If defibrinated blood be mixed with pieces of liver that were still fresh, the quantity of sugar materially increased. If *peptin* solution, the increase was more marked still.

Experiment has also shown that, out of *fats* and its components, viz., glycerine and fatty acids, as well as out of *soap*, the liver can produce sugar.

These latter observations are remarkable, but in plants it has long been known that *oily* seeds produce starch at the time of germination.

All these experiments were made, of course, in livers after death. To make them in the living, it was necessary to examine the blood going *into* and *leaving* the liver.

By the above it is shown that the blood leaving the liver is *twice* as rich in sugar as that of the *vena porta*, and this in inanition experiments; it comes, therefore, from albumen and fats.

If great quantities of sugar and dextrin are given in food, the blood leaving the liver is always *richer* than that entering it, and *glycogen* is deposited up to 13 per cent. of the weight of the organ.

Pavy's errors are understood when it is considered how difficult it is to analyse the blood for small quantities of sugar, and the question would perhaps be still unsolved were it not that there are animals to be found which survive the extirpation of the liver for some twenty hours (gneese); in these cases, chemical analysis shows that all *traces* of sugar have disappeared completely.

In a man weighing 70-80 kilos, about 700 grammes of sugar line the liver daily.

Such quantity, which holds good even in inanition, can only have one object, and that is to produce *animal heat* and *work*.

The notion formerly held was erroneous, that muscle substance underwent great changes and losses during work; the albumen in the food it is that, by being changed into sugar by the liver, is able to allow animals fed with meat only to do work. All the above is of great importance in considering *diet* required by mankind.

To produce *one hundred* parts of grape-sugar, forty parts of fat are enough; but of albuminous substances, *three hundred* parts are required.

A working-man can obtain his 2,700 calorimetric units out of *three hundred* grains of fat, and would require *two thousand and three hundred* of meat. Of course, some of the latter is required for the renewal of the working animal machine; but *modern rational* diets should tend to the procurance of *cheap palatable fats*.

Typhoid Fever in Florence.—Her Majesty's Consul-General in Florence reports that the epidemic is now declared to be at an end. The condition of the water is receiving the urgent attention of the local authorities.

Pharmacology and Therapeutics.

IODIDE OF POTASSIUM IN URTICARIA.

(*Journal of Dermatology*, p. 97, March, 1891.)

Dr. Stern has employed the iodide in five different cases of urticaria, partly acute and partly chronic, and has found it very serviceable. It was given in solution, the dose requisite to remove all symptoms varying from 90 grains to seven times that quantity, dispersed over an adequate number of days. He considers iodide of potassium always worth trying, although it is confessedly not an infallible specific, any more than are the other remedies in use.

CHLOROSIS AND ITS TREATMENT.

Dr. Frederick Scholz, of Berlin, instead of regarding deficiency of iron as the cause of chlorosis, states that contraction of the vessels is always present in these cases, and this he contends is not to be regarded as a complication due to an altered condition of the blood, but as the primary condition which is followed by the morbid change in the blood, as a matter of fact, he says, the vessels being too full, and the blood abnormally serous. Long ago he was struck by the cold and livid condition of the skin in anæmic subjects and he was led by this to employ hot baths, together with gentle friction in the treatment, with the view of acting directly upon the skin, so as to improve the vitality and nutrition generally. In thirty cases, where the distress of the patient was very great, Dr. Scholz has gone still further and supplemented the hot bath by venesection with marked benefit to the patients.

TREATMENT OF TACHYCARDIA.

By M. Huchard. (*Practitioner*, March, 1891, p. 219.)

The author recommends that during a paroxysm of tachycardia the patient must lie down on the right side, and every measure be taken to relieve him of mental or physical disturbance. Compression may be applied over the right carotid artery, in some cases a deep inspiration may give relief. Bichloride of methyl spray may be applied to the præcordia, the back of the neck, or the chest. At the onset of the attack, digitalis is given, by the mouth if possible, or, if the stomach be irritable, by rectal injection. When cardiac weakness is very marked, and syncope a pressing symptom, hypodermic injections of ether or caffeine may be used, and nitroglycerine given or nitrite of amyl inhaled. If the attack be a long one and threaten life, and if cardiac dilatation be imminent, recourse may be had to venesection; or, if the patient be plethoric, local blood-letting from the præcordia may be carried out. Between the attacks the patient must be carefully dieted. The use of coffee, tea, alcohol, and tobacco must be interdicted. M. Huchard uses arsenic as a general systemic tonic, and gives digitalis in constant but small doses for a long period, if cardiac weakness be present.

NITRITE OF SODIUM IN ASTHMA.

(*Practitioner*, March, 1891, p. 220.)

Pearce recommends nitrite of sodium as the best therapeutic measure against asthma, using the drug as

a rule without adjuvants. In cases in which there is insomnia he combines it with hyoscyamus. He recommends the drug to be administered in doses of three to four grains.

CREOLIN IN TONSILLITIS.

(*Practitioner*, January, 1891, p. 55.)

Dr. Itzig has used creolin as a disinfectant for the throat in follicular tonsillitis with marked success. Under its influence the purulent plugs in the lacunæ, as well as the swelling, tenderness, and fever, disappeared within twenty-four hours, and the patient rapidly recovered. It was prescribed as a one-per-cent solution, diluted with equal parts or more of warm water, and was used in the form of a gargle several times daily. The disagreeable burning feeling in the throat, which creolin causes, disappears rapidly on washing out the mouth with pure warm water.

THE TREATMENT OF SYPHILIS BY HEAT.

Dr. Kalashnikoff, of St. Petersburg, in the *Vrach*, publishes the result of some experiments on the treatment of syphilides by heat. The cases were all of skin affections of a papular or pustular character due to syphilis, some of them having been treated in the ordinary way without result. Portions of the body affected were subjected to heat, and it was found that marked improvement took place in those parts and in those only. The time required for the purpose differed of course in different cases, and appeared to depend on individual idiosyncrasies. In several cases about a month was enough, but in some a relapse occurred.

OIL OF EUCALYPTUS GLOBULUS IN SCARLET FEVER AND OTHER INFECTIOUS DISEASES.

This is a a paper read last year before the Epidemiological Society by Mr. J. B. Curgenven. The author says he has used eucalyptus oil with thymol and other camphors and aromatic antiseptics in solutions much stronger than has been found necessary by experiment to destroy anthrax spores, bacilli, and bacteria, even if used singly. The presence of fixed oils, alcohol even to the extent of 5 per cent., renders these solutions inert. Eucalyptus oil is as efficient as, and less dangerous than, corrosive sublimate. Mr. Curgenven relates four instances in which the use of the oil was very satisfactory. The patients did well, and in each instance children freely exposed to the infection did not take the disease. Tucker's eucalyptus disinfectant was used as an inunction, and in addition sprinkled about the bedroom so as to saturate the atmosphere with its vapour. The oil was given internally, in emulsion, in doses varying from mj. to iij., according to age. Mr. Curgenven claims that with this treatment (1) isolation is unnecessary; (2) the disease is arrested if inunction be used on the first day; (3) children exposed to infection for two or three days are preserved from the disease; (4) sequelæ are lightened and prevented and desquamation hastened; (5) the patient may mix with others after the tenth day, and (6) the bedding requires no disinfection. Eucalyptus oil has been successfully used in diphtheria, whooping cough, measles, chicken-pox, malarial fever, and influenza.

NAPHTHALIN IN TYPHOID FEVER.

By Dr. L. Natanson. (*Prov. Med. Journal*, p. 242, April, 1891.)

This remedy has been used by the author in several cases of typhoid fever. He was led to try it from observing its powerful antiseptic action in cases of fœtid diarrhœa, and of flatulence, resulting from putrid decomposition in the intestines. He has also obtained good results from the use of it in infantile and tubercular diarrhœa. The dose ordered is 0·15 grammes three times a day, and it is most conveniently administered in gelatine capsules. The naphthalin would seem to disinfect the fæces, at the same time inducing sleep and lowering the temperature. The good effects of naphthalin in typhoid fever may be noted one or two days after the commencement of its administration. If, under microscropical examination, no microbes are found in the fæces, the remedy may be discontinued. It is seldom necessary to continue its use beyond the third day, although in one case of phthisis the patient continued the remedy for three months without intermission. The drug should be discontinued should a greenish tint appear in the urine.

FERRIC BROMIDE.

(*Therapeuttc Gazette*, 1891.)

Dr. Hecquet strongly recommends the perbromide of iron in many affections in which it is desirable to soothe without depressing, and to strengthen without exciting. Out of 25 cases of spermatorrhœa treated by this drug, 19 were completely cured, two only being unrelieved. It was frequently found useful in cases of chloro-anæmia, leucorrhœa, hysteria, amenorrhœa, hydræmia of pregnancy, chorea, epilepsy, diabetes, and tuberculosis. In cases of cardiac hypertrophy, the patients were strengthened and relieved by the calming of the palpitation and of the dyspnœa. The drug is well borne, even by irritable stomachs, it may be taken in solution or in lozenges, the dose being from three to five grains. The action is more rapid than that of most iron compounds, as its good effects begin to manifest themselves in cases of chlorosis during the first week of administration, and a complete cure is generally obtained in a month. Dr. Hecquet has found that the ferric salt Fe_2Br_6 acts both more readily and gives more permanent results than the ferrous salt. At present no preparation of the ferric salt seems to be known in England.

NITRATE OF SILVER IN CATARRHAL JAUNDICE.

By Dr. Netzetzky. (*La Semaine Mëdicale*, March 16, 1891.)

Dr. Netzetkzy, of St. Petersburg, recommends the following formula in the treatment of catarrhal jaundice:—Crystallised nitrate of silver, 0gr. 0·6 centigr.; distilled water, 180 grammes. Dose: three or four table spoonfuls a day. According to Netzetzky, this quantity of solution is sufficient to bring about a complete cure in the majority of cases, but in some instances a more prolonged course of treatment is required. Of course the patient should be strictly dieted. The therapeutic effect of the nitrate of silver is explained by the action it exercises on the gastro-duodenal catarrh, the extension of which to the biliary passages causes the form of jaundice known as catarrhal.

APHTHOUS STOMATITIS; ITS ETIOLOGY, PROPHYLAXIS AND TREATMENT.

By Dr. H. Gillet. (*Rev. Gén. de Clin. et de Thérap.*, Feb. 25, 1891.)

Although it is doubtful whether teething has any direct influence on the causation of this affection, there is no question that by far the greater number of cases occur during this period rather than earlier; moreover, the eruption is frequently confined to the region of the piercing teeth. The true cause is without doubt the many microbes which are normally present in the mouth, and which find during teething with its slight inflammation, its excessive secretion of saliva, etc., a most favourable nidus for their multiplication. Certain foods, such as sugar, cheese, green food, salads, acids, and substances too hot or too cold, etc., may also favour the fermentative change or act as irritants in older children. Cases are also more numerous in the hot than in the cold months. A further confirmation of its parasitic nature is its absence in children whose mouths are carefully rendered aseptic, and its occurrence in caries quite apart from the eruption of teeth. The identity of the microbe which causes the disease is at present uncertain. The affection is contagious, both directly from child to child, or indirectly by means of contaminated objects,—whence the epidemics observed in families.

It may also appear as a secondary affection accompanying thrush, rubeola, scarlatina, chicken-pox, and other affections. Recurrences have also been observed in several instances.

Prophylactic treatment must be based on the above knowledge, which may be shortly summarised by saying that the disease depends on the inoculation of pathogenic organisms on a suitable soil. Careful cleansing of the mouth ought to be considered as one of the necessities, not only one of the refinements, of life. Important in adults, this is still more necessary in infants, whose mucous membrane should be kept scrupulously clean by washing after each feeding either with sterilised water, to which may be added a little eau-de-cologne, or with a mixture such as the following: ℞ Acid. boric 3 grammes, tinct. myrrhæ 2 grammes, water 200 c.c.; or some other non-irritant and non-toxic mixture. These fulfil the double indication of removing the particles of food, and attacking the microbes. Easily-fermenting foods should be prohibited, such as sugar and meat; syrup and honey are thus bad vehicles for infant medication. If the child be fed at the breast great care must be taken to wash the nipples before feeding. If fed artificially on cow's milk, this, as well as the bottle, should always be previously sterilised.

Should an attack require treatment, it may sometimes be rendered abortive by touching the aphthæ with solid silver nitrate, but if this fails it is best to employ gargles of chlorate of potash and antiseptic powders, such as iodoform or aristol. Any pain may be subdued by the local use of cocaine. Even if very abundant, aphthæ do not usually constitute a grave affection.

THE TREATMENT OF CHRONIC DIARRHŒA BY MASSAGE.

By Dr. Simon Eccles. (*Practitioner*, Jan. 1891.)

This treatment, besides modifying the general nutrition, has, according to the author, the following effects:—Under its influence there takes place a considerable diminution of the intestinal gases; stimulation of the gastro-intestinal movements; increased activity of the abdominal circulation; increased absorption by the intestinal mucous membrane; and last, but not least, improvement in the functional activity of the liver, which will probably aid it to destroy toxines. Massage would thus appear to act as an indirect antiseptic. Dr. Eccles has, besides, made some interesting observations on the effect of peptonized foods in producing diarrhœa. He finds that if food be peptonized artificially until it has acquired a bitter taste, patients who take it are very apt to suffer from attacks of diarrhœa. If, however, peptonization be arrested before this change takes place, the food has no unpleasant effects. We have for some time past made the same observation, and in ordering pancreatized milk for infant-feeding have specially cautioned mothers against the effects of over-peptonizing, and directed them to boil the milk before peptonization is complete.

ANTISEPTIC TREATMENT OF TYPHLITIS.

(*Rev. Gén. de Clin. et de Thérapeutique*, Feb. 25, 1891.)

The rational treatment of this affection is ably summarised as follows:—

(1) *Absolute rest.*—During convalescence the avoidance of prolonged standing, long walks, or great physical efforts.

(2) *Alimentary hygiene.*—Avoid errors of diet, copious or irregular meals, and combat dyspepsia and dilatation of the stomach. Diet should consist of milk, yolks of eggs, food leaving but small residue. (Bouchard.)

(3) *Local treatment.*—For the pain, injections of morphine; as antiphlogistics, inunction with mercurial ointment, poultices rendered aseptic by boric acid and anodyne by laudanum; prolonged baths.

(4) *Internal treatment.*—Aim at intestinal antisepsis; (*a*) by purgatives such as salicylate of magnesia in moderate and repeated doses; (*b*) by large intestinal irrigations, which should be repeated twice daily if possible. Bouchard's favourite formula is the following:—

℞ Sodii Bibor.
Tinct. Benzoini.
Spiritus Camph., āā 5 grammes (75 gr.)
Aquam (98° F.), 1000 c.c. (1¾ pints)
for each injection.

ON THE EFFECTS OF EXALGINE IN LARGE DOSES.

By Dr. Buisson.

(*Bull. Gén. de Thérap.*, March 15, 1891.)

The following case is worth recording, as showing the effects of an enormous dose of exalgine:—A man aged sixty was seized with influenza, of a nervous form, with much disturbance. The treatment ordered was as follows: two 15-grain doses of antipyrin to be taken during the day, an ounce and a half of castor-oil, the next morning, and two more 15-grain doses of antipyrine during the second day. By some accident exalgine was substituted for antipyrin, and the mistake was not discovered till next day, when the patient, having swallowed in all ʒi. of the drug, presented the following symptoms: he had severe vertigo, clutching

his bed and crying out that he was falling over a precipice, with extreme dyspnœa and pronounced cyanosis. All these symptoms, however, disappeared during the night, and the patient made a complete recovery. This is, perhaps, the largest dose of exalgine which has ever been taken; it seems hardly likely that the whole could have been absorbed, judging by the usual effects of much smaller doses.

CHLORAL AS A COAGULANT.

(*Therapeutic Gazette*, 1891.)

According to Dr. Marc Sée, it possesses the property of coagulating blood and serous fluids, and may be used instead of the iodine solutions in the treatment of hydrocele. He has himself treated 200 cases of this disease without any accident. He employs for this purpose a ten-per-cent. solution, an ounce of which is injected all at once, or very slowly into the sac. Two or three days afterwards a large effusion of fluid into the tunica takes place, but is soon entirely reabsorbed. The chloral solution above referred to may be repeatedly injected, with advantage, into the neighbourhood of varicose veins, as it causes the blood gradually to coagulate, and the veins to contract.

TREATMENT OF TUBERCULOSIS AND TUBERCULAR PLEURISY.

By M. Picot. (*Lyon Médical*, March 15, 1891.)

The author has for some time tried, in treating tuberculosis and tubercular pleurisy, injections into the subspinous fossæ of sterile olive-oil containing guiacol and iodoform. Each cubic centimètre contains 1 cgr. of iodoform and 5 cgr. of guiacol, and this dose is administered daily. No local reaction and only slight momentary pain follow the injections.

From an experience with twenty-five patients, he considers that this treatment benefits considerably the tubercular condition. Cough and expectoration diminish, and in certain cases cavities may dry up and cicatrize. In the second stage the cough, fever, and night-sweats may cease, the bacilli disappearing from the sputum, and the patients gaining in weight. These results accord well with those already recorded in our pages, as following the injection of oily solutions of eucalyptus, thymol, and a variety of other volatile antiseptics.

THE TREATMENT OF CHRONIC CONSTIPATION.

By Dr. Th. S. Flatau. (*Berliner klin. Wochenschr.* March 2, 1891.)

The author's treatment consists in the insufflation into the rectum, by means of a short and rather wide tube, of about three grammes of boric acid. The anus should be previously washed with cold water and dried, and the patient should remain quiet for a short time after the insufflation. Aperients have been tabooed of late in the treatment of chronic constipation, and some substitutes, viz., massage, electrical, gymnastic, and hydro-therapeutic applications and movements, require skill and a second person, whereas the above treatment is easily effected by the patient himself. The insufflation is especially for cases of relaxed rectal mucous membrane after chronic proctitis, and three striking cases of cure are described. The powder should be somewhat granular, and not too fine; the treatment should be persisted in daily for a week or two if necessary. Dr. Flatau thinks there is no danger of absorption of the drug, and no harm if it occur. The only case of poisoning (and death) by the use of boric acid otherwise than by the mouth, is that of Rosenthal (*Lancet*, 1882), but in this case an abscess cavity in the pleura was washed out for hours with 10 kg. of a five-per-cent. solution of boric acid. Molodenkow also reports a (non-fatal) case. Neumann found that dogs bore 5 or 6 grammes *par orem* before signs of reaction were observed.

TREATMENT OF WOMEN'S DISEASES BY ICHTHYOL.

By Drs. Reitmann and Schönauer (Vienna). (*Deutsche med. Wochenschr.* No. 24, March 23, 1891.)

A small mass of cotton-wool, with string attached to it, is dipped in a mixture of ichthyol amnion-sulph. 10 parts and glycerine 100 parts, and applied to the diseased part of the vagina and left there twenty-four hours. With some the tampon is changed daily, with other patients after intervals of two or three days. The following diseases were treated:—Fresh and chronic peri- and para-uterine exudations and parametritis, pelvic peritonitis, oophoritis, sulpingitis, also chronic metritis, and erosions of the portio vaginalis. The consequences were highly satisfactory, the temporary pain being readily subdued by a morphine injection. Ichthyol has a remarkable power of removing pain. It also strongly promotes absorption of exudation, some large examples disappeared within a fortnight. Ichthyol pills taken internally aid in this to some extent. Most of the patients were "out-patients," and the cases may be summed up as follows:—Pelvic peritonitis, 15 cases, 6 cured, 7 much improved, 2 unaffected; parametritis, 40 cases, 14 cured, 17 much, 6 slightly improved, 3 unaffected; retro-uterine exudation, 28 cases, 10 cured, 8 much, 7 slightly improved, 3 unaffected; sulpingitis and oophoritis, 17 cases, 4 cured, 7 much and 2 slightly improved, 4 unaffected. Altogether 100 cases, with 34 cures, 39 distinct improvements, 15 slight improvements, and 12 unaffected by the treatment.

NOTE ON THE PRINCIPAL DRUGS EMPLOYED LOCALLY IN SUPERFICIAL AFFECTIONS OF THE EYE.

By M. Grandclément. (*Lyon Médical*, March 8, 1891.)

About fourteen drugs are in common use in the treatment of affections of the eyelids, cornea, and conjunctiva. M. Grandclément has described each of these in such a way as will allow one to see at a glance the indications or the disadvantages of each; let us see briefly what these are:—

(1) Sulphate of zinc, 1 per cent., useful in catarrhal conditions; gives little pain, and there is no danger of its causing opacities even if the corneal epithelium be ulcerated.

(2) Sulphate of copper, used as solutions, crystal, or as "lapis divinus," much employed in granular ophthalmia; it is one of the most-used remedies for this obstinate affection. It does not become deposited in the ulcerated cornea or give rise to any opacities.

(3) Alum and tannin, are astringents, used in solution, 1—2 per cent., are much less used now than formerly. They are harmless detergents, but are not microbicides.

(4) Borax, used in solution, 1—2 per cent., generally succeeds in simple inflammations of the eye; gives little pain, and never forms deposits.

(5) Carbolic acid, seldom now employed, owing to its irritant properties. It may be useful, however, if used in concentrated solution to touch the surface of obstinate ulcers.

(6) Boracic acid; a three-per-cent. solution is much used in most ocular affections. It is neither irritating, astringent, nor caustic, and acts as a slightly antiseptic detergent.

(7) Chlorine water, formerly much used by Graefe, often succeeds in curing certain corneal ulcers which have resisted all other remedies; the solution, however, is very unstable.

(8) Hydrogen peroxide, little used now, was recommended as an antiseptic and powerful bleaching agent.

(9) Salicylic acid, in solution, is a good microbicide in purulent ophthalmia, but is very liable to cause permanent opacities if the corneal epithelium be affected.

(10) Silver nitrate, a most valuable microbicide, very valuable in purulent ophthalmia, but very liable to produce opacities unless the excess be immediately converted into chloride by washing with salt-water. Used as a caustic in the above condition, and for certain atonic corneal ulcers.

(11) Salts of lead, formerly much used, as Goulard water, are answerable for an enormous number of corneal opacities from deposit of lead carbonate. Their use ought to be almost entirely discarded.

(12) Oxides of mercury, yellow and red; the first only should be used. Employed as ointment with vaseline, especially in the kerato-conjunctivitis with photophobia of children. Do not give rise to opacities.

(13) Calomel in powder, much used in corneal ulcers and phlyctenules; it is less irritating if mixed with an equal part of powdered sugar, which prevents its being converted into HgCl in contact with the tears.

(14) Corrosive sublimate, much used as an antiseptic, should never be employed stronger than 1 or 2 in 3000, otherwise it gives rise to serious irritation with abundant secretion. It must be used with caution and not too frequently; it must never been injected into the anterior chamber after a cataract extraction, as it would certainly produce opacity.

PROPHYLACTIC TREATMENT OF OPHTHALMIA NEONATORUM.

By M. Valenta. (*Rev. Gén. de Clin. et de Thérap.*, March 11, 1891.)

The method of Crede (instillation of nitrate of silver solution) presents some danger in inexperienced hands. M. Valenta proposes to substitute for this a solution of permanganate of potash. The solution should be light-red only; it should be applied first to the eyelids with a tampon of cotton-wool, and immediately afterwards, using a fresh tampon, the conjunctival sacs should be treated in the same manner. This should be done as soon as possible after birth. It will be seen that this is a treatment which could be easily adopted by any accoucheur.

TREATMENT OF EPILEPSY BY COMBINATION OF POTASSIUM BROMIDE WITH AN ORGANIC AGENT CAPABLE OF PRODUCING ANÆMIA OF THE NERVOUS CENTRES.

By Dr. V. Poulet. (*Bull. Gén. de Thérapeutique*, March 15, 1891.)

Everyone will have met with cases of epilepsy on which bromides are without effect. Children especially are apt to be little benefited either by large doses of potassium bromide or of mixed bromides. Under these circumstances, and also in those numerous instances in which large doses are not well borne, M. Poulet directs attention to the value of certain organic drugs, which by their action may increase and intensify that of the bromides. He points out that the bromides owe their efficacy in epilepsy to the fact that they produce both cerebral ischæmia and nervous hyposthenia; all the organic agents which are unquestionably useful in epilepsy act in the same manner on the capillary circulation. Such remedies are calabar bean or its active principle eserine, picrotoxine, and belladonna. Digitalis also is useful in certain cases

According to Damourette and Fraser, eserine has two antagonistic actions: it produces convulsions by causing hyperæsthesia of the motor centres, and paralysis by diminishing the excitability of the motor nerves. With a single large dose the first action is intense enough to kill by convulsive asphyxia, before the motor nerves become affected. On the other hand, with small divided doses, paresis of the motor nerves appears without hyper-excitability of the centres, and this condition having been established, much larger doses can be given without causing death, or even convulsions. Thus eserine in small doses has an action exactly opposed to that of the same drug in large doses. Divided small doses should therefore be useful in epileptic convulsions.

Atropine has effects quite similar to those of eserine on the muscles; it must not, however, be given in conjunction with eserine, for there is the danger that either the convulsant effects of large doses or the paralysant effects of small doses will be summed and produce death, the first by convulsant and the second by paralytic asphyxia. Picrotoxine also exhibits the same double action, according as large or small doses are exhibited. To recapitulate, eserine, belladonna, and picrotoxine in medicinal doses have all an action analogous with that of potassium bromide, producing paresis of the muscular system, and relieving congestion of the cerebral capillaries. Experience has shown that while no one of them alone has an action comparable to that of the bromides in a favourable case, one or other of them in combination with small doses of bromides will confer a fresh efficacy on the latter, and assure satisfactory results.

In children it does not appear to matter much which drug is combined with bromides—any one of them will usually prove efficacious. In adults, however, the question is not so simple, and it often requires a trial of all three before it is discovered which is the most suitable.

The author details several cases in which treatment with one or other of the combinations was successful where the use of bromides had failed. Even the "status epilepticus" seems to have been favourably influenced.

The question of dose is an important one. This will depend on the age and idiosyncrasy of the patient, or the intensity of the symptoms. In adults the dose most usually successful is 5—6 grammes (75—90 gr.) of bromides with 1 centigr. (·15 gr.) of eserine sulphate, or 1 centigr. (·15 gr.) of picrotoxine, or 1 mgr. (·015 gr.) of atropin sulphate. For the above alkaloids may be substituted 30m. of tinct. physostigma or tinct. belladonna. The drugs must be given either just before, or during meals, in order to avoid gastric disturbance.

Children must be given proportionate doses. Assistance in the choice of a drug may sometimes be obtained by observing the condition of the pupil; a dilated pupil should indicate a myotic, while, if the pupil be contracted, a mydriatic may be of more service. It does not, however, do to rely too much on their indication, and it is often necessary to try all three drugs, before finding which is most useful.

At a certain period of the year (generally in the spring), most epileptics are liable to an exacerbation of symptoms. It is necessary to guard against this by increasing temporarily the dose of bromides at the critical period. By the above treatment patients can, as a rule, be assured against fits while taking the medicine, but no *truly curative* treatment has yet been discovered, the disease returning immediately medication is discontinued. The minor evil of constant medicine-taking is, however, a slight one in comparison with the advantages it confers, and one to which most patients are found willing to submit.

ALIMENTARY REGIME IN GLYCOSURIA.

By M. Duhomme. (*La Semaine Médicale*, March 11, 1891.)

M. Duhomme, in this paper, from observation of the varied effects of restricted diet in cases of glycosuria, proposes to establish a distinction, not only between diabetes and glycosuria, but between different varieties of glycosuria. According as the sugar disappears more or less rapidly and completely from the urine he would classify cases as (1) simple, (2) mixed, (3) complex, glycosuria. In the first class of cases disappearance of the sugar is not only complete, but extremely rapid—a few hours, and never more than two or three days of restricted diet suffice, no matter of how long-standing are the symptoms, or how great the amount of sugar passed.

In *mixed* glycosuria, the disappearance is rapid at first, but several weeks, or even months, must elapse before the urine is quite free from sugar.

In the complex form, the sugar is rapidly reduced at first, but never entirely disappears. It seems, then, that the quantity of sugar passed is by no means so important a symptom from the point of view of prognosis as the effect of restricted diet, and this teaching entirely agrees with the views of Dujardin-Beaumetz. According to Dr. Duhomme, simple glycosuria is never by itself a serious ailment, nor can it become so; but it may be, exceptionally, the symptomatic expression of a grave state of the economy, especially in cirrhosis, of the liver. It may merge into the mixed type, but never becomes a complex glycosuria, or true diabetes, of which the pathology is quite different.

Admit these types, and the indications and contra-indications of restricted diet can be given in a few words. It is sometimes efficacious, always useful, and often indispensable in the complex and mixed type; it is generally useless, and even harmful if pursued too long, in the simple type. It should always be employed, however, at the commencement, as an aid to diagnosis, and on the chance of its being efficacious.

ON PIPERAZIDINE.

By M. Vogt. (*La Semaine Médicale*, March 11, 1891.)

If, during three days, a daily dose of fifteen grains of piperazidine be taken, it will be found at the end of this time that the uric acid of the urine is diminished, while the urea is increased in quantity—all conditions of diet and exercise remaining the same. This action is maintained even for five or six days after cessation of treatment. Piperazidine has a solvent action on tophic (in test-tube experiments); it may be that it will prove useful in gout, although one would be inclined to rely rather on its oxidising action than on its solvent power on uric acid.

CONTRIBUTION TO THE TREATMENT OF DIPHTHERITIC SORE THROAT.

By Dr. F. Loeffler. (*La Semaine Médicale*, March 11, 1891.)

Dr. Loeffler has recently been making a series of experiments on the effects of various antiseptics on the bacillus of diphtheria. These researches show that corrosive sublimate and carbolic acid are the most convenient, as they cause death of the pathogenic bacillus, the first in the strength of 1 : 1000, the second in three-per-cent solution.

The patient should, every three or four hours, gargle with the following solution:—

℞. Phenol cryst., 6 pts.;
Alcohol, 60 pts.;
Aquæ. destill., 140 pts.;
By weight.

In the intervals the patient should gargle himself every hour with a weaker antiseptic mixture, such as the following:—

℞. Thymol, 1 pt.;
Alcohol, 100 pts.;
Water, 400 pts.;
By weight.

This is not strong enough to kill the bacilli, but it acts as an adjuvant to the more powerful liquid. The weaker mixture may also be used with advantage as a prophylactic measure by the nurses and others brought in contact with the patient.

We may say, in conclusion, that the clinical results obtained by Drs. Mosler and Strubing, of Greigswald, who adopted these measures, have been highly satisfactory.

TREATMENT OF ICTERUS GRAVIS BY LARGE DOSES OF ESSENCE OF TURPENTINE.

By Dr. J. Carreau. (*La Semaine Médicale*, March 11, 1891.)

Dr. Carreau has successfully used large doses of essence of turpentine in the treatment of different varieties of icterus gravis (infectious jaundice, hæmoglobinuria, bilious fever, yellow fever), all of which present in common the symptoms of anuria and

hæmorrhages. The doses used are heroic—(in severe cases he gives two to three perles every half-hour, and as many as sixty during the first thirty-six hours. If vomiting occurs, the essence is given hypodermically with liquid vaseline (1 pt. essence to 5 pts. vaseline). He describes four cases in which this treatment met with success beyond all expectation. The first was a woman suffering from icterus gravis; she was profoundly comatose, with uræmic convulsions. M. Carreau at once ordered three perles of essence of turpentine to be taken every half-hour for a few hours; to be reduced after a time to two perles. As soon as the odour of violets appeared in the urine, the albuminuria began to diminish, coma gave place to simple somnolence, and a few days after convalescence was complete. A second patient had yellow-fever, with uncontrollable vomiting. He received in all, during thirty-six hours, twenty-three hypodermic injections, and the symptoms rapidly disappeared. The third and fourth cases are examples of bilious fever with hæmoglobinuria, and show the necessity of giving large doses of turpentine if its therapeutic effects are to be obtained. With doses of one perle every hour or every half-hour no improvement was observed; but when the dose was increased to three perles every half-hour, a rapid amelioration resulted.

THE PHYSIOLOGICAL AND THERAPEUTICAL ACTION OF COTO-BARK.

By Dr. J. V. Shoemaker, M.D. (*The Medical Bulletin*, Philadelphia, February, 1891.)

Coto-bark first appeared in London in 1873. It is procured from the interior of Bolivia, in the cinchona-bark districts, and its botanical origin still remains doubtful. Jobst, of Stuttgart, studied the chemistry of coto in 1875, and succeeded in isolating the active principle, a crystallisable substance, which he named cotoïne. A year later the same observer announced the discovery of a distinctive active principle obtained from another species, called paracoto-bark, and which he named paracotoïne. Its composition, physiological and therapeutic properties are analogous to those of cotoïne, although its appearance and behaviour to reagents is entirely different. Burkhart found no results on rabbits from cotoïne. Jobst agrees in this. Burkhart states that paracotoïne has no influence on the salivary glands, but that the sialagogue action of coto is apparent. Five or six powders, from three-quarters to one and a half grains each, given to healthy men in the course of the day, produced no effect beyond inactivity of the bowels, or actual constipation. Paracotoïne may be detected in the urine from four to six hours after administration by the mouth, and cotoïne at a somewhat later period. Prof. Albertoni, in 1883, published his researches on coto-bark. He states that cotoïne exerts no deleterious effect on the digestive processes. Being insoluble, it enters the small intestines unchanged, where it is dissolved by the action of bile and intestinal fluids. Its absorption is proved by its excretion in the urine. Albertoni agrees with Burkhart and Pibram that the medicinal use of cotoïne in disease diminishes the excretion of indican. He concludes, however, as the result of many experiments, that while cotoïne may retard, it is unable to prevent the development of bacteria, and the occurrence of putrefaction. This result is the same within or without the body. If into the jugular of an animal ten to fifteen centigrammes of an alkaline solution of coto were injected, and the abdomen opened with proper precaution, a condition of active hyperæmia was found. The arteries were dilated, the intestinal walls reddened and injected, veins turgid, and blood less carbonised than should normally be the case. At the same time, no alteration occurred in the circulation through the submaxiliary gland. The temperature of the peritoneal cavity was raised. The dilatation of the abdominal vessels is active, and not paralytic. In 1886 Dr. Eloy, at the Bichat Hospital, confirmed these statements. When the abdomen was opened he perceived congestion, turgescence, and arborisation of the intestinal mucous membrane, particularly in the first part of the small intestine. It is especially in diarrhœa that the new remedy has been found useful. Von Gietl concludes that we possess in this new bark a specific against diarrhœa in all its forms. Both the powder and the tincture, however, are often ill borne. Most investigators agree that in cotoïne and in paracotoïne we have a valuable remedy for diarrhœa. The best results appear to be obtained in chronic intestinal catarrh, and also in tubercular disease of the intestines. From his own experience, Dr. Shoemaker has formed a very favourable opinion of the value of coto in the treatment of diarrhœa. He adds the caution that on account of its influence on the abdominal circulation, it should be used with circumspection in cases of acute intestinal catarrh.

CHEMISTRY OF POEHL'S SPERMIN.

By Prof. Alexander V. Poehl. (*Vratch*, No. 10, 1891, p. 281.)

Referring to his former paper on the subject (*vide* the London Medical Recorder, June, 1890, p. 208), Prof. Poehl, of St. Petersburg, states that subsequent researches have induced him to alter his original views concerning the chemical structure of spermin (as prepared after Schreiner's method modified by himself). The substance has proved to be neither ethylenimin nor diethylendiamin, nor piperazin, as he once believed. Repeated analyses of chloroplatinate and aurate of spermin gave formules—$C_5H_{14}N_2$; $C_{10}H_{26}N_4$; and $C_{15}H_{38}N_6$. The author is not yet sure which of them should be regarded as the formule of his spermin. It is just probable that the substance may belong to some more complex bases having the general (serial) formule $C_{10}H_{26}N_4$ ($C_5H_{12}N_2$). As to the characteristic reaction of Poehl's spermin, they are thought to be these. (1) When a spermin salt is treated by a freshly-prepared bromine lye, a certain proportion of nitrogen is given off even at the ordinary room temperature, but the total proportion of the element cannot be eliminated even on heating up to 100°C. (2) The mixture of a solution of spermin with a saturated aqueous solution of alloxan on evaporation yields a bright red precipitate or residue. The latter is decolourised by acids, but when treated with caustic alkalies it assumes a violet colour. On a spectroscopical examination of a bright-red aqueous solution of the precipitate there is detected a broad zone which occupies nearly the whole length of the spectrum from the line D to the line G, and absorbs yellow, green, and most of blue rays. When the solution is treated with caustic alkalies, the absorption zone is shifted towards the red portion of the spectrum, orange rays undergoing then absorption, while blue ones reappear. (3) The most characteristic reaction is constituted by the appearance of the odour of a recently ejaculated human seminal fluid, which is

observed on mixing a spermin salt with an aqueous solution of chloride of gold, or powdered magnesium. (4) Another characteristic feature is represented by a peculiar form of crystalline phosphate of spermin (Charcot's crystals), the crystals resembling *pleurosigma angulatuns* (a member of *diatomeæ*). Unfortunately, the conditions of their formation are yet obscure. Hence the non-appearance of such crystals cannot possibly be regarded as a proof of the absence of spermin in the medium examined. (5) When treated by concentrated acetic acid, the *pleurosigmaline* crystals rapidly transform into peculiar and characteristic rosetta. As to crystals of aurate or chloroplatinate of spermin, their form greatly varies and hence cannot give any indications characteristic of the substance.

Gynæcology and Obstetrics.

CASE OF SEVERE ECLAMPSIA, WITHOUT ALBUMINURIA, FOLLOWING LABOUR; CURE BY SUBCUTANEOUS INJECTIONS OF ETHER.

By Dr. Perron. (*Lyon Médical*, March 15, 1891.)

Eclampsia is always an alarming condition, and the following note may be useful to any who have the misfortune to meet with a case. The patient, a primipara, passed through a normal labour, her previous health and conditions having been all favourable, save for frequent exposure to cold during the later period of her pregnancy. Her urine contained no albumen. An hour after delivery typical eclamptic convulsions commenced, with much dyspnœa from spasms of the muscles of respiration. Hourly doses of chloral were administered, but without effect; leeching behind the ears, and moderate bleeding also failed to arrest the convulsions. Ten hours after the commencement the spasms were almost incessant, and a very gloomy prognosis was given. Almost despairing, Dr. Perron then injected a syringeful of ether, with the result that after a few moments respiration became less embarrassed and more regular, and the spasms ceased as if by magic. Encouraged by this, two more injections were made; no more convulsions occurred after the second injection, and the patient made a complete recovery.

This case seems to show, then, that ether injections may succeed after failure of recognised treatment.

NOTE ON THE USE OF KOLA NUT DURING LABOUR.

By Dr. Chambard-Hénon. (*Lyon Médical*, March 15, 1891.)

The following case is quoted as an instance of the value of kola as a stimulant during labour:—A lady arrived at her fifth pregnancy, the history of the previous ones being as follows: first pregnancy, normal presentation, vigorous expulsive pains, accompanied by great tendency to syncope, heart-sounds becoming weak, slow and irregular, and the face intensely congested. After three hours the child was born, and made to breathe with difficulty. The three succeeding pregnancies each exhibited the same phenomena, and in the second the child was still-born, apparently asphyxiated *in utero*. Anticipating a similar state of things in the fifth pregnancy, Dr. Chambard-Héron gave the patient during the pains of dilatation a supply of kola-chocolate. This time there was no tendency whatever to syncope at any time, the patient remaining in good spirits throughout, and being delivered of a child which cried immediately after birth. This happy result is attributed to the tonic and stimulant action of the kola.

Instances do not appear to be common in which still-births occur as a consequence of a syncopal condition of the mother; the second pregnancy above described seems, however, to have been an example of this state of things. Of course the happy course of the last labour might have been due to other circumstances than the fact of the consumption of kola.

BELLADONNA IN LABOUR.

(*Practitioner*, March, 1891, p. 221.)

Dr. M. Asher, of Lithgow, New South Wales, advises the use of belladonna in the early stages of labour, having found it of great benefit, saving much pain to the patient and materially diminishing the expected period of the labour. In primipara, after a prolonged period of "pains" of more or less intensity and with but little dilatation of the os, as well as in the more intense condition of a completely rigid os, where, with extreme contraction, no dilatation whatever occurs, he has given large doses of belladonna with marked effect. He usually prescribes a reliable tincture of belladonna in doses of twenty to thirty minims every hour, or oftener, and satisfactory dilatation usually follows the first or second draught.

THE THERMOMETER IN OBSTETRICS AND GYNÆCOLOGY.

By Dr. Leith Napier.

This was the subject of two lectures given at the Midwives' Institute. In the first lecture Dr. Napier describes obstetric temperatures. The usual course consists in a slight fall immediately after delivery, lasting for about forty-eight hours, followed by a rise. Thus there is a normal range of about 2·5° (97° to 99·5° F.). Retention of urine and, later, constipation may cause a rise of temperature. Retained clot or membrane may produce fever even apart from blood-poisoning. In Milk Fever the rise of temperature comes on later, from seven to ten days after delivery, local signs of inflammation of the breast following upon the rise of temperature. Dr. Napier lays considerable stress on nervous influences as a cause of rise of temperature, even speaking of rigors preceding these rises, but he adds the caution that it is well to regard these temperatures as due to other causes than a passing nervous disturbance, until more experience decides otherwise. There are two forms of acute inflammation. (1) Metritis. Here the rise of temperature may take place within a few days of delivery, more often on the second or third day. The thermometer may register 103° or 104°. There is tenderness over the uterus. A relatively low pulse-rate with a high temperature is a distinguishing feature of metritis. (2) Peritonitis. It may be local, with slight feverishness (101°—2°), or general, when the temperature runs high, and is preceded by a rigor. Dr. Napier alludes to that form of suppurative peritonitis which gives rise to few symptoms and which generally ends in death. Slighter forms of inflammation affecting the pelvic

cellular tissue or ovaries come on later (seven to ten days). If a localised abscess form, the temperature may rise to 103° or more. In septicæmia the temperature rises within forty-eight or seventy-two hours after delivery. Eclampsia may be distinguished from hysterical convulsions by the more decided rise of temperature in the former. As regards the relation of pulse to temperature, Dr. Napier lays, it anything, more stress on the thermometer than on the pulse.

The second lecture is taken up with the alteration of temperature after gynæcological operations. The temperature does not follow any absolute rule. There is generally a slight fall followed by a reactionary rise. The temperature indicates less clearly the prospects of the patient than in the puerperium; but in conjunction with the pulse-rate and local symptoms much may be learnt. Subnormal temperatures after operations are more common than is generally supposed. After ovariotomy, which may be taken as typically illustrative of abdominal section, the temperature may fall two degrees, or even more, in unfavourable cases. If the patient does well, it rises slowly in about two hours. If persistently above 100°, especially with distended abdomen, vomiting, increased pulse-rate, and dry tongue, peritonitis is to be feared. Hiccup-like dry retching is very ominous. During convalescence there is very little disturbance of the temperature. Other causes of a rise of temperature are septicæmia, as also bronchitis, establishment of the menses, errors of diet, and neglect of the bladder and rectum. After hysterectomy, shock often causes the temperature to fall to 97° or 96°. Septicæmia is marked with very high temperature. Pyæmia is very rare in gynæcological practice. Pelvic cellulitis is usually, if not invariably, septic. Temperature may be 102° or 103°.

Then follows, in tabulated form, a comparison between the symptoms of the morbid conditions following upon childbirth and gynæcological operations. In the treatment of pyrexia pain must be relieved and sleep promoted. Quinine, sodic salicylate, and sometimes aconite, are useful, but less so in gynæcological than obstetric practice. Cold is the most powerful means of reducing temperature.

A schematic chart of obstetric temperature is given.

PORRO-CÆSARIAN SECTION.

By J. Halliday Croom, M.D. (*Edinburgh Medical Journal*, April, 1891.)

The subject of this operation was a dwarf, aged twenty-five years, the measurements of whose pelvis indicated an amount of contraction that rendered it quite impossible for delivery to occur *per vias naturales*. The operation was performed about the end of the eighth month, the considerations which decided the selection of Porro's operation rather than the simple Cæsarian being three in number. They were: the greater ease and rapidity with which it could be carried out; the fact that, if successful, it would preserve the woman from any possibility of having to undergo a similar risk at some future time; and the absence of any object to be attained by saving the uterus. The womb having been exposed by an incision extending from the umbilicus to the pubes, it was made to protrude somewhat through the wound, and a strong elastic ligature carried over down to the cervix. A difficulty was experienced at this stage in keeping the intestines free of the ligature, but as soon as this was arranged the latter was drawn tight and kept so. The uterus was next incised. The placenta, fortunately, not being encountered, and the child at once extracted, strong needles were now inserted through the knot on the elastic ligatures and cervix, the uterus amputated, and the wound closed. The whole operation lasted about five-and-twenty minutes, and was done under careful antiseptic precautions. There was no shock experienced.

ON THE USE OF ICTHYOL IN GYNÆCOLOGY.

By Dr. R. Block. (*Wiener. med. Wochenschrift*, 1890, Nos. 50 & 51.)

Ichthyol was introduced by Unna in 1883 for the treatment of skin-diseases. Dr. Block used it in forty-five cases in the space of two months for acute and chronic para- and peri-metritis, also for salpingitis, endometritis with abundant purulent secretion, cervical catarrh with hypertrophied, and eroded cervix, and for vaginitis. It was used in the form of icthyol-ammonium, also as a ten-per-cent. glycerine solution or ointment. It was applied by means of a cotton-wool tampon soaked in the glycerine solution after cleansing the parts. Where secretion from the endometrium or cervix was great, Playfair's probes were made use of, and thus the icthyol applied, either in ten-per-cent. glycerine solution or the pure substance. When the cervix was not sufficiently dilated, the glycerine solution was even injected into the uterus. These applications were made every three to five days. The anodyne effects were very marked in all cases.

Icthyol was less successful in cases of old infiltrations. Dr. Block then records three cases of para- and peri-metritic infiltrations. They were treated by rubbing in the ointment over the hypogastric region, and swabbing out the fornix with the glycerine solution. Recovery took place in twelve, seven, and twenty-two days respectively. Pus is even said to have been found in the first instance on exploration. The advantages of icthyol are, that there are no unpleasant results with this ten-per-cent. solution. Only in one case, after the application for three days of tampons soaked in pure icthyol, were there slight irritation symptoms.

Pathology.

THE PATHOLOGY OF DIABETES.

By R. Lépine. (*Rev. Scientifique*, Feb. 2, 1891.)

Diabetes has always been, and still is, a fighting ground for the theorists. Bouchard stated that there were at least twenty-seven theories of its causation, none, however, being fully satisfactory. New facts have recently come to light which render it still more difficult to formulate definite ideas of this complex subject. Quite recently, Méring and Minskowski succeeded, by extirpating the pancreas, in producing a true diabetes in animals; but, although this is an important step in the question, we are as yet far from being able to explain this relation between the suppression of the pancreas and diabetes. Lépine has discovered an additional fact in relation to the effects of pancreatic extirpation. If the percentage of sugar contained in the blood of a healthy person be extracted (1) immediately after it is shed, and (2) after keeping it for an hour at body-temperature, it will be found

that a large portion—from 20 to 40 per cent.—has disappeared during this time. This diminution he calls the glycolytic power of the blood. In the case of diabetes the blood will be found to possess a glycolytic power of only 5, 2, or even 1, and exactly the same is found to be the case in animals rendered diabetic by removal of the pancreas. He finds that this glycolytic power is due to a ferment which resides especially in the white corpuscles, and which he has been able, to some extent, to isolate from them by a process of centrifugalization and maceration with salt-solution. The same ferment can be isolated from the chyle. It would seem from the above experiments that the pancreas is the main source of this ferment, and Lépine believes that the pancreatic cells have a bipolar function, that at one extremity they secrete pancreatic juice into the ducts, and at the other the veins. This would seem to coincide with the observation of M. Renaut with regard to the arrangement of the gland, that "the cells are arranged in relation to the vessels rather than to the excretory ducts."* This view appears to gain further confirmation from the fact that the digestive functions of the gland can be entirely arrested, and the gland made to undergo considerable atrophy by injecting paraffin into its ducts, but still no sugar will appear in the urine unless all but a very small fraction of the gland be removed. Thus the pancreas must be regarded as an important factor in the production of the sugar-destroying power of the blood—how important, we cannot as yet say, but the discovery of the glycolytic ferment is a step in a direction in which much research remains to be done. No theory of diabetes will at any rate now be tenable which does not take into account this newly-discovered function of the pancreas.

* *Archives de Physiologie*, 1881, p. 326.

A STUDY ON CYSTS OF THE PANCREAS.

By D. J. Bœckel. (*Gazette Méd. de Strasbourg*, March, 1891.)

The author gives the following *résumé* of the method to be adopted in the operative treatment of pancreatic cysts:—(1) Perform a laparotomy; (2) lay bare the cyst, after having divided its coverings; (3) puncture the cyst with an aspirating trochar in order to reduce its size, and to diminish its tension; (4) close the hole of puncture by pressure-forceps; (5) make out fully the tumour, and note the extent of adhesion which may be present. If now the adhesions can be easily broken down, the tumour may be shelled out and removed entire; if they are dense and vascular, any attempt to separate them would be certainly followed by death, and it is best in this case to suture the walls of the cyst to the edges of the wound in the abdominal parietes, and to allow the cavity to heal by granulation under an antiseptic dressing. This method is the one most generally applicable, and seldom leads to any any permanent fistula.

Bacteriology.

TUBERCLE-BACILLI IN THE BLOOD.

(*Berliner klin. Wochenschr.*, No. 10, March 9, 1891.)

It will be remembered that Dr. Liebmann, of Trieste, recently stated that he had found tubercle-bacilli in the blood, in cases where tuberculine had been injected. He has since then sent a preparation showing this to the Editor of the *Berliner klin. Wochenschr.*, who acknowledges the presence of bacilli therein. The Medical Faculty of Kasan University entrusted the examination of tuberculine to Drs. Guttmann and Libbertz, both of whom found living micro-organisms in the undiluted fluid. They now propose to subject these to a careful bacteriological examination. They also found that the fluid supplied to them was strongly alkaline, whereas Dr. Jolles had previously described the reaction as neutral. (*Fortschritte der Medicin*, Bd. ix., 1891.) A further specimen of the fluid was alkaline, and held micro-organisms. The President of the Commission appointed to examine the subject is Prof. D. N. Wissozky. It is not denied in Berlin that micro-organisms may be present, but their asserted capability of multiplication is regarded as highly improbable. What we want is a full account of the exact process adopted by Prof. Koch in the preparation of "tuberculine."

TUBERCULOSIS IN A DOG.

By MM. Cadiot, Gilbert, and Roger. (*La Semaine Médicale*, xi., No. 4, 1891.)

It is so well known that dogs are almost immune to tubercle, that the authors have thought it worth while to record a case of the disease in a shepherd's dog. The animal had had a cough for three months, and rapidly emaciated. On *post-mortem* examination it was found that there were no less than two litres of fluid in the left side of the chest cavity, the pleura was very thick, and in the lower lobe of the lung was a caseous mass about the size of a nut, full of small cavities and of a muco-purulent fluid. The other organs were all sound. On microscopical examination it was seen that the nature of the mass was a caseous pneumonia, but tubercle-bacilli were also discovered in it which were like those of human tubercle, but rather longer and more slender. The new growth in the pleura was a lympho-sarcoma.

The authors think, as the possibility of infection in the house was practically excluded, that the dog had become infected by eating the offal from a slaughter-house (of which he was very fond), when his master took him there on the occasion of business visits.

OF THE PYOGENIC PROPERTIES OF THE SO-CALLED "PNEUMOCOCCUS" OF FRAENKEL-WEICHSELBAUM.

By Dr. Haegler. (*Forthr. der Medicin*, viii., 1890, No. 10.)

The author discusses the question which was propounded by Dr. H. Neumann, whether the so-called pneumococcus of Fraenkel-Weichselbaum is identical with the micrococcus pyogenes tenuis, and brings forward a case in which there was a spontaneous abscess formed in the course of a pleuro-pneumonia. From the pus of the abscess he obtained, cultivated, and experimented with a micro-organism, morphologically and biologically identical with the pneumococcus.

The author has taken the trouble to go through the literature of the subject, to find if the idea that the two kinds of bacteria are identical receives any support from other recorded cases besides his own.

He has found only two cases of Passet, and a few observations of Guarnier and Orthmann, which have been so far recorded; but at the same time he thinks that his case certainly supports Neumann's thesis, that the two bacteria are one and the same.

THE CHEMICAL COMPOSITION OF TUBERCLE-BACILLI.

By Dr. Albert Hammerschlag. (*Centralbt. fur klin. Med.*, No. 1, 1891.)

The author has made a careful chemical investigation into the nature of the chemical composition of tubercle-bacilli. He finds that the amount of the whole bulk soluble in alcohol and ether is no less than 27 per cent.; this differs widely (nearly 10 per cent.) from the usual composition of bacteria in general. In the alcohol and ether extract he finds *fat*, *lecithin*, and *a substance which, when introduced into rabbits and guinea-pigs by inoculation, produces speedy death.* In the insoluble remainder after the first extraction in alcohol and ether, he is able to obtain, with the aid of soda-leys, bodies which give the reactions of albumin and cellulose. The behaviour of the bacilli during the different phases of the chemical treatment is very interesting. They retain their form but lose their peculiar reaction to Ehrlich's method of staining, after their treatment with soda; and, moreover, those parts of the bacilli stained with carbol-fuschin become decolourised when placed in acid. The observer has stained the albuminous bodies in cover-glass preparations, and finds that they stain in the same way as the bacilli. He believes that the arrangement of the albumin and cellulose in the bacilli accounts for their peculiar behaviour to staining reagents.

As regards the growth of the bacteria and the products of their metabolism, the author finds that they are capable of growth only in a medium containing either glycerin or carbo-hydrate materials, *e.g.*, in broth containing grape-sugar, cane-sugar, milk-sugar, glycogen, or dextrin, they grow well, but they grow best on the addition of glycerin. The quantity of these substances which they require, however, is very small. Carbohydrate or glycerin is absolutely necessary for the growth of few, if any, of the other kinds of bacteria.

By Chamberland's method he was able to obtain, from a broth-culture, a filtrate which was not poisonous. Neither could he by the method of Brieger obtain any ptomaine, although he succeeded in getting a toxalbumin which produced a definite rise of temperature in rabbits for one to two days.

CHANGES IN THE TUBERCLE BACILLUS AFTER THE INJECTION OF KOCH'S LYMPH, HITHERTO UNDESCRIBED.

By Dr. Feigel. (*Centrablatt f. allg. Pathologie u. path. Anal.* 1891, No. 4.)

Prof. Fraenkel has already described certain changes in the tubercle bacillus after Koch's injection under the following heads:—(*a*) Diminished size, (*b*) biscuit form, (*c*) a splitting through the middle, and (*d*) a breaking up of the bacilli. Dr. Feigel used Gabbet and Czaplewski method of staining with fluorescin. He describes the following changes. In the mostly much-curved and often attenuated bacillus, there appears:—(*a*) Rounded swelling generally occupying one end, but sometimes springing from the side. Occasionally several such swellings may be seen in a single bacillus. Sometimes a well-stained mass is seen at some little distance from the bacillus with which it is connected by a coloured thread of protoplasm. Sometimes apparently only the stained and shrunken membrane was all that was left of the micro-organism. It is difficult to decide whether the swellings are due to the escape of the protoplasm (such as is seen in plant-life) or spores coming out of the protoplasm. At any rate it represents the injurious effect of the injected lymph upon the bacilli.

Dermatology.

ICHTHYOL VARNISH.

Dr. Unna considers that for certain purposes a waterless ichthyol varnish possesses advantages over the usual preparations, and gives the following formula for its preparation:—Ichthyol 40 parts, starch 40, solution of albumin 1 to 1½, water to 100. The starch is first moistened with the water, then the ichthyol well rubbed up with it, and lastly, the solution of albumin is added. For surgical purposes he suggests another formula:—Ichthyol 25 parts, carbolic acid 2·5, starch 50, water 22·5. The ichthyol and the carbolic acid are dissolved in warm water. Out of the solution when cool, the carbolic acid is not precipitated, although it is only soluble to the extent of 6 to 7 per cent. in distilled water. To this solution starch is then gradually added. He finds that this waterless ichthyol varnish combines all the advantages of the ordinary composite ichthyol preparations in the treatment of localised affections of the skin, and that it is better borne.

TATOOING IN ITS MORAL RELATIONSHIPS.

By Dr. Borgh. (*Monats. Prakt-Derm.*, No. 5, 1891.)

The author, in a very interesting article upon the social and moral condition of women (prostitutes), who are found to be tatooed in Copenhagen, subjects their status to a close analysis, and proves that tatooing in women is almost always a sign of mental degradation, frequently combined with signs of physical degeneration.

He considers that tatooing deserves study in connection with its social pathology.

EXPERIMENTS ON THE ETIOLOGY OF LEPROSY.

By Dr. Beaven Rake. (*Berl. klin. Wochenschr.* No. 2, 1891.)

Dr. Rake, in thirty-three cases of anæsthetic leprosy, introduced pieces of leprous tubercles under the skin of the forearm, and stitched the wound over them. In one case he inoculated the patient with lymph from a tubercular case. During six months in none of these cases had leprous tubercle formed. In four of them, who died in the meanwhile of intercurrent maladies, it was found that no new growth had taken place at the point of inoculation, nor were any bacilli observed.

Three of the patients had been inoculated with

portions of tubercle taken during a febrile process. In one patient, who had been inoculated with tubercular lymph for four-and-a-half years previously, no nodules had formed. The author infers from these experiments, and from his experience, that leprosy in the general sense is not contagious.

He had examined the common articles of food, in Trinidad, for leprosy bacilli, but found none.

ON TUBERCULOSIS CONVEYED BY INFECTION.

By Dr. Baginsky. (*Deutsche med. Wochenschr.*, No. 1, 1891.)

A patient, who was supposed to have been infected by the handkerchief of a sister suffering from tuberculosis, developed a tubercular ulcer in the septum nasi, which was scraped. Three years later an ulcer was discovered inside the left side of the nose, and sometime later ulceration of the gums of the upper jaw, with miliary nodules, which were breaking down, together with tubercular infiltration of the apex.

Koch's fluid produced general and local reaction, and, at the fourteenth injection, a painful glandular tumour developed on the left side of the cheek.

Under the influence of tuberculin, the ulcer in the nose appeared to heal, but small grey nodules were visible in the neighbourhood. During the injections the condition of the gum became worse. In a portion of it which was excised tubercle bacilli were found.

THE TREATMENT OF RODENT ULCER WITH RESORCIN PLASTER.

By Dr. Boeck.

(*Monats. f. Prakt. Derm.*, No. 4, 1891.)

The author remarks that the advantages of resorcin plaster in the treatment of rodent ulcer are not sufficiently understood, and reports two illustrative cases.

In one, that of a gardener, aged sixty-two, a rodent ulcer, an inch and a half square, existed on the right cheek, causing complete ectropion of the lower lid. The plaster was renewed daily and in a few days improvement began, the ulcerated surfaces having healed over, with the exception of one or two points, within two months.

Another similar, and even more successful case, was that of a man aged eighty-two, in which complete cure took place of an ulcer of the size of a centimètre.

ON PIGMENTATION AND DISCOLOURATION OF THE SKIN.

By Dr. Kaposi. (*Archiv. fur Derm. und Syph.*, Heft 2, Jan. 1881.)

The author believes that in pigmented conditions of the skin, the rete-cells perform an active part, analogously to the formation of pigment by the cells in mealanotic sarcoma.

In vitiligo it is this function of the rete-cells which ceases, and not a cessation in the supply of hæmatin. Grey hair he believes to be due to the same cause. The arrest of this function he believes to depend upon a neurotic influence, analogous to the specific functions of other cells which are dependent on the nervous system.

A CONDITION OF THE BLOOD-CORPUSCLES IN PURPURA HÆMORRHAGICA.

By Dr. Spietschka. (*Archiv. fur Derm. und Syph.* Heft. 2, Jan. 1891.)

In two cases of this disease investigated by the author, he found nucleated red blood-corpuscles, an appearance which he attributed to their rapid and incomplete formation following on the previous loss of blood.

ON SUPPURATION.

By v. Sehlen. (*Centralb. f. Bact. u. Parasitenk.* VIII. p. 97.)

V. Sehlen investigated five cases in which suppuration of the skin was produced by various applications, namely, two-per-cent. perchloride ointment, tincture of iodine, ten-per-cent. pyrogallol ointment, and chrysarobin. In the first three instances no micrococci grew after inoculation on gelatine, nor were any found by examination with the microscope. A further proof, he considers, is given by these experiments to show that suppuration can be produced without pyrogenic organism.

ON THE ETIOLOGY OF TRAUMATIC ZOSTER.

By Dr. Luca. (*Sicilia med., Anno. III., Fascic. III.*)

The author endeavoured to produce herpes zoster by laying bare, and irritating the roots of the intercostal nerves, but in vain.

He infers from the failure that the lesions which have been found in persons who have died of the distase, had no casual relation to the affection.

THE PATHOLOGICAL HISTORY OF LUPUS ERYTHEMATOUS.

By Dr. Leloir. (*Archiv. de physiol.*, No. 4, Oct., 1890.)

The author has investigated preparations of lupus erythematous with regard to the presence or absence of tubercle bacilli, with an invariably negative result, nor could he find any trace of the specific micrococci described by some Italian authors. Inoculation experiments were also negative.

These investigations show that lupus erythematous is not a tubercular affection of the skin.

ON PEDICULOSIS.

By Dr. Grellety. (*Journ. des Mal. cut. et syph.*, Vol. II. p. 20.)

The author states that pediculi die during acute febrile illnesses of the persons on whose bodies they live, but the eggs retain their vitality. The best method of killing the eggs is combing the hair, whilst it is rubbed with mercurial ointment. The ointment should be washed off after three hours to prevent absorption.

Surgeon Thomas Heazle Parke, of the Army Medical Staff Corps, whose services in connection with Mr. Stanley's African expedition have already met with some public recognition, though none from the Department of which he is an honoured member, has, we learn, been appointed a vice-consul in the Oil Rivers Protectorate.

Laryngology and Otology.

A CASE OF LIVING LARVÆ IN THE EAR.

By Dr. W. E. Baxter. (*Archives of Otology*, January, 1891.)

Dr. Baxter, of Bangor, in the State of Maine, U.S., reports an interesting case of larvæ in the ear. A farmer, aged thirty-four, came to him stating that while mowing, four days previously, a fly crawled into his right ear. He removed the fly, dead, using a blade of grass. There was no pain or discomfort till two nights after this, when the ear commenced to bleed, and at the same time an intense pain started. Both these symptoms lasted till he came under treatment. Just before he came under observation, *three white worms* dropped out of his ear. When first seen the man was nearly insane, both from pain and because he thought "his head was full of worms." On inspection the auricle was found to be red and much swollen, the bandage that covered his ear was saturated with blood, and the meatus was full of moving larvæ. Dr Baxter immediately syringed the ear with warm water, and by this means alone removed twelve larvæ. The auditory canal was abraded throughout its whole extent; the membrana tympani, although red, inflamed, and macerated, had not been perforated, but remained intact. A small pledget of wool, soaked in boro-glyceride, was placed in the auditory canal, and the patient was sent home. He was not seen again till the end of the week, when the abraded condition of the canal and membrana tympani had disappeared. The larvæ averaged six millimètres in length and two millimètres in breadth, and, including the three that escaped from the ear before the patient presented himself, numbered fifteen in all. They were of a yellowish-white colour, and were filled with blood. The deposit of the eggs in the auditory canal was probably accidental, as the man never put any oil or other substance into his ear that would attract insects. As the fly was killed in removing it, the eggs were doubtless pressed out of its body at the same time.

TREATMENT OF EMPYEMA OF THE ANTRUM.

By Dr. Luc. (*Archives Internat. de Laryngologie*, Feb., 1891.)

Dr. Luc, in a short paper, discusses the treatment of an ordinary case of antrum suppuration, in which an opening has been made in the usual manner through the alveolus. The patient may live at a distance, and find it inconvenient to remain under observation. Is it necessary that he should be kept under observation, and for how long; or may we let him go away, leaving him to perform the necessary irrigation of the cavity; and, which method of irrigation should be give preference to? Again, should we allow the opening to close of itself, without seeking to prevent the closure by means of a metal drainage-tube, and, is there not a danger of trouble arising from the entry of foreign particles from the mouth into the antrum, especially while eating? These are the questions which have to be considered in the treatment of an ordinary case of antrum suppuration, and Dr. Luc, from an experience of some thirty cases, has arrived at the conclusion that some of the difficulties have been exaggerated. For the last two years, he has given up the use of the metal drainage-tube, which in his opinion only led to a perpetuation of the malady without any counter-balancing advantage. He thinks that, once the carious tooth, which was the original cause of the disease, has been removed, and the cavity has been disinfected by two or three thorough washings with a boric-acid solution, performed every twenty-four hours, in the intervals between which the cavity has been plugged with iodoform gauze, there is no danger in allowing the fistulous opening to close, merely continuing the washing out of the cavity as long as the opening is large enough to permit it. The pretended danger from the entry of particles of food is chimerical, nevertheless such fragments may lodge in the opening and prevent the proper irrigation of the cavity. To avoid this, and in order to enable the patient to continue the irrigation until the opening has closed, Dr. Luc lays down the following rules of treatment. During the meal the patient is to plug the opening. For this purpose he recommends the use of a plug made by cutting off the end of an olive-headed bougie, the cut end being introduced into the fistula, as the olive-shaped top being downwards prevents the plug from slipping up into the antrum. After the meal, the mouth is well rinsed with the boric-acid solution, and the plug is withdrawn. The patient then takes some more of the solution in his mouth, leans his head forward over a basin, and compressing his cheeks, forces the fluid into the sinus, and out through the nose. When the time comes that the fluid can be no longer forced through the antrum, the patient may cease further treatment and consider himself cured.

EXAMINATION OF THE POSTERIOR WALL OF THE LARYNX.

By Dr. Gustave Killian. (*Archives Internat. de Laryngologie*, Feb., 1891.)

The sub-glottic portion of the posterior wall of the larynx is not brought into view in the ordinary method of laryngoscopic examination, with the patient's head thrown slightly back. Türck recommended, for the exploration of this region, that the patient's head should be quite erect, and the mirror be held more horizontally than usual. Even by following these directions the posterior walls of the larynx can only be seen in a small proportion of cases. Several authors have endeavoured to facilitate the examination of this area by the employment of two mirrors, or of a prism, but these methods cannot be conveniently applied, except in a limited number of cases. Killian discovered that the difficulties of the examination could be overcome if the patient's head was bent well forward. In this position the posterior wall of the larynx can be seen its whole extent in nine out of ten cases. The following are the directions he gives:—(1) The patient bends his head well forward, till his chin touches his sternum. (2) With the head bent forward in this manner, the patient must be standing, in order to look into his mouth. Persons of short stature, or children, must stand on a stool or chair. The observer must kneel, so as to look vertically upwards into the patient's mouth. Sometimes he can make the examination while sitting in front of the patient. The metal chimney and bull's-eye usually fitted to the lamp cannot be employed while the observer is examining in this position. (3) The patient opens his mouth widely, protrudes his tongue,

and breathes deeply. (4) A large-sized mirror is to be preferred. It must be applied to the soft palate, a little further than usual from the posterior wall of the pharynx, and the soft palate is to be firmly pushed upwards with the mirror. The difficulties encountered in this method of examination are much the same as in ordinary laryngoscopy. On the whole, the mirror is tolerated rather better in this method, because it is kept further away from the posterior wall of the pharynx, which is the most sensitive point. Of course, anything which prevents the patient from bending the head forward, such as inflammations or new growths about the neck, will interfere with the employment of this method of examination. Examination of the trachea, or tracheoscopy, is much facilitated if we adopt this method, only it is not necessary for the patient to bend the head so far forward as it is for the inspection of the posterior wall of the larynx.

"CHOLESTEATOM" OF THE EAR.

By Prof. Pollitzer (Vienna).
(*Wiener Med. Wochensch.*)

The study of this affection has received of late much attention—important not merely on account of the disputed pathology thereof, but of risks to patients.

Two forms occur:—(1) The sharply limited, roundish, or knobby tumour, consisting of concentric lamellæ, formed out of epidermis cells, containing also cholestearin crystals and detritus; this is the *cholesteatom* proper, or pearl tumour of the temporal bone. (2) The irregular, non-sharply limited collection of flakes of epidermal material, which one so often finds during and after purulent discharges of the middle ear. Pollitzer calls the latter *cholesteomatous*.

Virchow, and others with him, believe in the possibility of the independent formation of these tumours, unconnected with previous inflammation, just as can be the case in the pia mater.

V. Jröltsch was the *first* to oppose Virchow's views; he looked upon these tumours always as retention products. Berzold and Harbermann have confirmed the latter views, and shown that in cases of perforation the epidermis of the external meatus can penetrate into the middle ear, especially in peripheral perforations.

Pollitzer quotes a case of a tumour occurring in the mastoid cells, and owing its origin to an invagination of the skin following an old fistula.

A RECORD OF THE RESULTS OF FIVE HUNDRED AND TWELVE CASES OF INTUBATION OF THE LARYNX.

By Dr. J. M. Bleyer. (*Arch. of Pediatrics*, March, 1891.)

Since 1886, when he began to perform the operation, Bleyer has had five hundred and twelve operations, with a hundred and eighty-nine recoveries, or thirty-seven per cent. He dwells on the importance of making a forced or normal laryngoscopic examination before entering on the operation, by which the differentiation and diagnostication of other laryngeal diseases can be made, and the extent of the dipheritic process can be seen. Forced laryngoscopy he performs with the aid of a gag and a specially constructed tongue-traction. In many of his later cases he has practised daily extraction of the tube. This was done for the purpose of removing the accumulation of loose membranes, tenacious mucus, etc. Food was given while the tube was out. When stenosis was not found to be urgent, some hours were allowed to elapse before the tube was replaced, and in this way it was often found that the tube could be dispensed with after the second or third day. After deciding to remove the tube for good it may be necessary to intubate again; this occurred in some cases as late as the fourth day after removal. He recommends that the amount of fluid given be restricted as much as possible, and when there is difficulty in swallowing prefers to use the stomach-tube. The author holds that thorough irrigation of the parts affected with diphtheria is of great importance. For this purpose he uses a rubber catheter attached to a fountain-bag syringe; the catheter is passed into the nostril, first right and then left. The solution used is Marchand's peroxide of hydrogen, fifteen-volume solution, one part to two of water. After the nostrils have been thoroughly irrigated, the mouth, pharynx, and larynx are next washed out. For this purpose the gag may have to be inserted. The patient is to be held well forward over a basin for the reception of the returning fluid. The catheter is to be passed down into the larynx, and this and the surrounding parts well irrigated. The peroxide of hydrogen solution, one part to eight parts of water, is to be used. The fluid is generally immediately expelled by coughing, and is perfectly harmless if swallowed. Ulceration from pressure of the tube was found in about one per cent. of the cases. Partial or complete aphonia was often present after removal of the tube for a few days or week, but in all cases it eventually got quite well. As to the time during which the tube had to be left in the larynx, it was removed on the first day in 5 cases; the second day, in 29 cases; the third day, in 37 cases; the fourth day, in 57 cases; the fifth day, in 22 cases; the sixth day, in 10 cases; the seventh day, in 13 cases; after the seventh day, in 17 cases. The longest time was twenty days.

Ophthalmology.

FRESH RESEARCHES BEARING ON THE TREATMENT OF SUPPURATIVE PANOPHTHALMITIS.

By Dr. F. Boe. (*Annal. Oculist.*, 1891, 30.)

The object of this paper is to point out the danger which, the writer believes, attends the operations of enucleation and evisceration during the early stage of intraocular suppuration. This danger, which is recognised by most surgeons in this country, is due to the opening up of the numerous channels by means of which that most infecting microbe, the streptococcus, can leave the eye, and invade the general system. The writer has found this microbe in the blood within the cavities of the heart, in an animal dying thus infected, and succeeded in procuring from them typical cultures on gelatine.

By injecting a few drops of this blood into the vitreous of another rabbit, a rapidly destructive panophthalmitis was set up, which could be propagated to other rabbits by successive inoculations. Enucleation was, in the great majority of cases, not followed by death, and when this did occur, there were no signs of meningitis, and no metastatic abscesses, but

there were white lines on the surface of the liver visible to the naked eye.

Microscopical examination showed the capillaries of the hepatic lobules dilated, and filled with the streptococcus. In one rabbit, which died on the fifth day, in addition to the hepatic changes, there was purulent exudation into the pleura.

Another rabbit in the same hutch, injected with the same fluid, but with a much larger dose, did not suffer from general infection, although considerable inflammation occurred in the vitreous and iris.

Evidently, therefore, the same agent may excite simply local inflammation, or may produce systemic infection; in the former case the immunity is probably due to the rapidity with which the channels of communication become occluded.

There can be no doubt that the microbe to be dreaded, in excising a suppurating eyeball, is the streptococcus. It has been proved that this is the agent that sets up puerperal panophthalmitis, as well as orbital suppuration and phlebitis of the cavernous sinus in facial erysipelas.

Although, however, when suppuration follows any perforating wound of the globe, it must be considered as established that it is the streptococcus that is the most likely to cause general infection, and there is no proof that this microbe is always present, or, if present, that it will be capable of doing mischief, for it appears, from culture experiments on gelatine, that it is short-lived; does not flourish well in company with other microbes, and that its noxious influence varies according to the medium in which it lies. It is therefore no matter for surprise that enucleation is very often performed during suppurative panophthalmitis without any ill results. Unfortunately, there is no way of telling beforehand whether a panophthalmitis is of an infectious nature or not.

Some surgeons enucleate early in panophthalmitis, on the ground that the microbes have then not had time to infect the system. The author is strongly opposed to this course, on the ground that the eye cannot, with reference to the microbes, be considered a closed cavity, for the venous and lymphatic channels have to be taken into account, and it is in the early stage of suppuration that these are most patent, and that the germs, invading a new territory, are most active. The author found that when he wished to set up systemic infection in rabbits by enucleation, he was the more successful the more recent the suppuration. When this was well established, provided, of course, that there was no orbital suppuration, it is easy to understand that enucleation is less dangerous, the infecting agent has lost some of its virulence, and a barrier has been established principally by venous and lymphatic thrombosis. But where is this barrier situated? May not the operation itself destroy it? Moreover, there is great risk of rupturing the globe at the time, and so inoculating the orbital tissues.

The advocates of enucleation advance the argument that very few cases of meningitis have occurred, but it is not likely that all the cases have been recorded.

The author is equally opposed to evisceration: it is true that as many channels are not opened, but a cavity is left into which the large venæ vorticosæ open, and in scraping the inner surface of the sclera any occluding plug can easily be displaced. The longer we wait, the less is the danger. It depends on the presence of the infecting agent, and it is reasonable to believe that the activity of this diminishes daily. Whether it is killed by phagocytes, by other microbes, by chemical agents, or dies of old age, the result is the same; but as there is no possibility of saying with certainty when a radical operation like evisceration is free from danger, it should be abandoned. The author is in favour of free incision into the suppurating globe when interference seems necessary to relieve symptoms, and washing out the cavity with an antiseptic fluid.

ON RESECTION OF THE OPTIC NERVE.

By Dr. L. Webster Fox, M.D. (*Philadelphia Med. and Surg. Reporter*, Feb. 7, 1891.)

The æsthetic objections to enucleation are sufficiently obvious. An artificial eye, however artistic, can never replace the missing organ in appearance, and, sooner or later, must give rise to irritation. The question has often been asked, "How can we best obviate the necessity of enucleation?" The three indications for removal of eyeballs are, as a rule:—(1) If wounded or cut in the ciliary region (the danger zone), to prevent sympathetic ophthalmia. (2) If atrophied, to make room for an artificial eye. (3) For new growths. "The first indication is the most important. If we can prevent sympathetic ophthalmia, we may also save an eyeball; but by saving the eyeball, we do not necessarily prevent sympathetic ophthalmia. In the second case an atrophied eyeball is disfiguring and is removed for cosmetic purposes, and because it may be a hiding-place for new bone developement, which may remotely produce sympathetic irritation. I have frequently removed a stump and found bone-shells with edges as sharp as a splinter of glass. With such a foreign body irritating it, an optic nerve might readily be the focus of migratory ophthalmia. Where a tumour exists, we have but one recourse—enucleation." De Wecker, a well-known opponent to the operation of enucleation, is quoted. He believes that when simple resection of the optic nerves becomes more popular in cases where there is danger of migratory ophthalmia, no more eyes will be taken out, except where they are the seat of a neoplasm. He argues that if the transmission of migratory ophthalmia be confirmed, then simple resection of the nerve will afford a sure means of preventing it. The only absolute way of proof is to note accurately the results of a large number of enucleations. He has abandoned the attempt to substitute a tearing, or a combined operation of tearing and resection, in place of simple resection. The author concludes that if resection can be performed with complete protection against sympathetic ophthalmia, it will be a boon to many unfortunate people, to whom the wearing of an artificial eye is as annoying as it is unsightly. Dr. Fox gives the following details for the performance of the operation:—"A vertical incision is made over the insertion of the external rectus muscle through the conjunctiva, which is dissected off as far as the external canthus. Two silk-threads are then passed through the muscle near its tendinous insertion. These threads will be required in a subsequent stage of the operation to unite the detached muscle to the eyeball. The muscle is then cut and drawn to the temple side, and the globe thus exposed. All tissue is then separated from the eyeball with curved scissors. The optic nerve is then found by passing a hook—which is nothing more than a strabismus hook bent at a right angle. This hook brings forward the nerve, and then the retractor is passed downwards until it meets the nerve, and is then passed downwards and outwards, keeping the adipose tissue out of the way. A second bent hook

is inserted under the optic nerve, and also pressed backward. A certain portion of the nerve becomes exposed, and with a delicate flat forceps the nerve is grasped and held firmly. This is to prevent the hæmorrhage from the ophthalmic vein and artery (central) after the cut with the scissors. The eyeball is rotated forward, so that the non-severed nerve becomes exposed and a small piece of its bulbar end is cut off. By keeping pressure on the orbital end of the nerve for a few minutes, all danger of hæmorrhage is averted. The eyeball is then rotated into place, and the external muscle is readjusted. Over this the conjunctiva is replaced, and it is held in position with black silk, which may be removed in three days. Antiphlogistic dressings are applied day and night for several days. Very little reaction follows, and in a week or ten days the eye has assumed its normal appearance, with no disfigurement, and the action of the muscle is complete."

Toxicology & Medical Jurisprudence.

A SEVERE CASE OF HYOSCIN-POISONING.

By Dr. Adler. (*Berliner klin. Wochenschr.*, No 10, March 9, 1891.)

A practical chemist used as a drinking-glass one which contained some hydrochloride of hyoscin. There was a bitter after-taste, and in a quarter-of-an-hour he felt giddy, and within two hours had become quite unconscious. He lay in deep coma, the head bent backward, the jaws firmly closed, all the limbs showed clonic cramps, also the lower jaw occasionally, the face was pale, the pupils extremely dilated, the margin of iris being only about a millimètre wide and rigid, the pulse 145, small and soft. The mouth was very dry. The stomach was first washed out, and hyoscin found in the contents, then two centigrammes of morphine were hypodermically injected, followed by half the quantity of pilocarpine hydrochloride. He now made slight movements on being shaken. After three hours the pulse was lowered in frequency to 104 and the tongue was moist. The pilocarpine was repeated, and in two hours he was able to answer a question; after this he had a long tranquil sleep of about twelve hours. On waking, the pupils were still dilated as much as ever, but the patient soon recovered altogether.

CHILDREN INOCULATED WITH KOCH'S LYMPH.

By A. Jacobi, M.D. (*Archives of Pediatrics*, March, 1891.)

Dr. Jacobi gives details of nine children, ranging from nineteen months to thirteen years of age, treated with injections of Koch's lymph. They were suffering from various maladies, mostly of an undoubtedly tuberculous nature. The therapeutical results of the lymph were not at all striking, though improvement was noted in some instances. In the case of a child nineteen and a-half months old, suffering from well-marked tubercular meningitis, the case ran its course without any evidence of beneficial or injurious effect from the inoculation. In some cases there was a reaction after a small dose; after a short time, though the dose was considerably increased, no reaction showed itself, though the cases were proved to be tuberculous. The doses required and tolerated by most of these children were very large compared with those of adults. Epstein has noted the same fact in observations on nurslings of from five to eight weeks old.

POISONING BY CHLORATE OF POTASH.

By Dr. Wohlgemuth. (*Practitioner*, Jan., 1891, p. 48.)

Dr. Wohlgemuth relates a case in which the patient, a man, fell ill with sore throat and swelling of the left side of the face, and was ordered on the fourth day a mixture containing potassium chlorate. On the eighth day, having taken 150 grains of the salt, he was suffering from difficulty of swallowing, having eaten almost nothing since the onset. The appetite was gone, and the patient complained of a marked feeling of giddiness and continued thirst. On the two days following the commencement of the medicine, the urine was very dark, but this appearance passed off on the third day. On examination the urine proved to be natural in colour and to contain albumen, hyaline casts, but no methæmoglobin. The medicine was discontinued, and diuretics and stomachics were substituted. Next day the giddiness had abated, the urine was still albuminous, the appetite was improved, but on both legs, from the malleoli to the knee, were numerous punctate subcutaneous hæmorrhages about the size of a pea. On the following day a crop of larger spots appeared and extended as far as the hip. There was slight œdema of the feet and legs. Some larger subcutaneous hæmorrhages occurred later, but within a week they were fading, the urine was normal, and thirst was gone.

IODOFORM-POISONING.

By Rudolf E. Gerlach, M.D. (*Medical News*, Philadelphia, March 7th, 1891.)

Dr. Gerlach publishes four cases of iodoform-poisoning which came under his own notice:—

Case I.—A woman, aged forty-five, with a varicose ulcer of the leg. About two drachms of iodoform ointment (one drachm to the ounce) were smeared on lint, and applied under an elastic roller bandage. Some hours afterwards, itching and burning pain in the leg occurred, and the leg became inflamed, swollen, and covered with blebs. The itching became general, but the eruption did not spread. Twenty-four hours after the application, tension and stiffness of the skin of the face, and œdema of the eyelids supervened. The face, temples, and ears became swollen. On the second day a papular eczema developed in both forearms and upper part of trunk. On the sixth day the swelling of the face grew rapidly worse, and on the eighth day the patient was almost completely unable to see on account of swelling of the eyelids. There was no fever, headache, or gastric disturbance, but great languor existed. On the ninth day the swelling decreased, and after two weeks the swelling had completely subsided, some eczema of the face and forearms persisting.

Case II.—During an operation for necrosis of the femur, considerable iodoform was used. On the evening of the operation, the patient had some fever, and a rapid weak pulse, delirium, and hallucinations. Swelling of the face appeared within twenty-four hours, especially round the eyes. It continued for several days, and disappeared with the fever and delirium.

Case III.—A patient, suffering from periosteal abscess of the foot, had the abscess laid open, and packed with iodoform gauze. The same night the face and hands began to swell, and to ache, and violent gastric pain with nausea and vomiting set in, which continued for forty-eight hours. The iodoform gauze was removed twenty-four hours after the application. The swelling extended from the face and hands, so as to reach the elbows in forty-eight hours. A week subsequently the swelling had subsided.

Case IV.—The anterior tibial nerve was resected in the dorsum of the foot, and an iodoform-dressing applied. Acute dermatitis of the whole foot and leg at once developed, with burning pain and the formation of blebs. No other general or local symptoms were noticed. On a subsequent occasion iodoform dressing was again tried with the same result. The author gives a sketch of the literature of iodoform-poisoning. From a consideration of the various published accounts he concludes that:—(1) Iodoform-toxcæmia, after external application, manifests itself in one or more of the following clinical forms: viz., lesions of the skin and subcutaneous tissue, gastro-intestinal irritation, and disturbances of the nervous system, either psychical, thermal, or cardiac in their manifestations. (2) Very small doses do not lead to grave intoxication, though even the most trifling doses may produce annoying skin symptoms. (3) All forms of iodoform-poisoning have the common features of rapid development and slow disappearance. (4) Some apparently normal individuals are by idiosyncracy predisposed to iodoform-toxcæmia. (5) The fatal cases so far reported show that tuberculous, scrofulous or cachetic individuals are most exposed to danger. (6) The danger of poisoning also depends in large part upon the form of application, that by external solution having proved most virulent.

Reviews.

Elements of Practical Medicine. By Alfred H. Carter, M.D. (Lond.), M.R.C.P., Physician to the Queen's Hospital, Birmingham, &c. Sixth Edition. London: H. K. Lewis. 1891.

In spite of the frowns of teachers and the sneers of examiners, this excellent little manual has steadily progressed, and is now at least as well known as any of the ponderous volumes from which the student is expected to derive his information. In the sixth edition, now before us, many of the omissions which detracted from the value of its predecessors, have been remedied, though, here and there, one still notices curious lapsûs. Why, for example, has not myxœdema been favoured with even a mention? Dengue fever, too, though not a "first-class" complaint, nevertheless merits a little attention. We miss any mention of hypertrophic cirrhosis of the liver, and we are grieved to find no information given with respect to that interesting little organism the Filaria Sanguinis Hominis, the association of which with chyluria is more obvious, *pace* Dr. Carter, than would be inferred from his remark that such association is maintained on questionable ground." Of course, in a work of this kind, it is easy to detect shortcomings; but, while it cannot be commended as the sole and only source of information for intending candidates, it is undoubtedly of immense use in furbishing up their knowledge just prior to examination.

Golden Bullets. By Wm. W. Ireland, M.D. Edinburgh: Bell and Bradgate. London: Simpkin, Marshall and Co.

It is always a pleasant task to criticise the extra professional work of medical men, when they wander from the beaten path and venture into the flowery paths of general literature. A man needs a very robust imagination to soar above and beyond the absorbing cares of practice, but in this respect those who have passed part of their lives abroad are more favourably situated than their stay-at-home brethren. The episodes and environment of life in the far East leave vivid souvenirs, which readily admit of being woven into a harmonious and pleasing narrative. In "Golden Bullets" the author takes us back to the India of the sixteenth century, and traces the career of the adventurers of all grades and classes who won, first for themselves and then for the nation, that immense and fertile Empire. He turns to account a vast storehouse of archæological lore, and, in the guise of a romance, initiates his readers into the unco' ways of those daring spirits who laid the foundation of what has since come to be the greatest conquest the world has ever seen. Interesting as a quaintly-told narrative, the volume possesses an attraction peculiarly its own for Anglo-Indians who are enabled to appreciate the fidelity of the rendering, and can trace the effects of these long past events on the present. If the characters are fictitious, the events bear the appearance of historical facts; and if the author has deceived us in this respect, it is, after all, to his credit as a narrator.

Notes on the Examination of Sputum, Vomit, Fæces, and Urine. By Sidney Coupland, M.D., F.R.C.P., Physician to the Middlesex Hospital, and Lecturer on Practical Medicine in the Medical School; Examiner in Medicine at the Examining Board for England.

These short notes compiled by Dr. Coupland will be found very useful in the wards, and we can commend them for what they profess to be, viz., an epitome of the most important points in the examination of the sputum, vomit, and excreta. The notes were evidently made for the use of clinical clerks, to whom they should be valuable; the little book adds this to its other merits, that it might almost be carried in the waistcoat-pocket, provided that pocket be a large one. As regards the first section on the sputum, it might have been worth while to point out to the novice that in specimens stained, to shew the tubercle bacillus, that these micro-organisms stain a beautiful pinkish-red to crimson, whereas the other bacteria, so numerous in the sputum, are stained with the blue stain (methylen-blue); and again in the next section, in doubtful cases of blood in vomit, do we not get a reliable way of recognising it by the characteristic spectrum of acid hæmatin. It is a pity to state without comment that *urobilin* is the urinary pigment, since it is almost certain that healthy urine does not contain that substance. The author puts the normal specific gravity of the urine at from 1020 to 1025, but is not this somewhat too high? As regards peptonuria, in view of the more recent work on the composition and properties of peptones, it seems most likely that in the cases in which it was formerly the custom to speak of peptone in the urine, we shall have in the future to speak of albumose. We are pleased that Dr. Coupland should have inserted an account of Liebig's method of urea estimation, as it

is, after all, the only reliable one of estimating the amount of that substance in urine.

Flushing and Morbid Blushing. By Harry Campbell, M.D. (Lond.). London: R. Lewis. 1891.

Dr. Campbell has set to himself the task of analysing, from the standpoint of physiology and pathology, the phenomena of "heat-flushing" and morbid blushing, and as a result he has produced a work which is not only a most interesting study, but is also calculated to convey a very considerable amount of valuable information to the mind of the reader. The intimate dependence of the conditions concerned on disturbance of the nervous system is insisted on as the key-note of the study, and the work opens with an anatomico-physiological account of the skin and the voso-motor apparatus by which the blood-pressure in superficial parts of the body is influenced. In the second part "Flushing" is described as a nerve-storm in which a rush of blood to the skin and a sense of heat are "generally the most obtrusive manifestations." Between this condition and blushing it is pointed out that a sharp line of demarcation can be drawn, but the distinguishing character of a blush is found on its exciting agent being dependent on some emotional state. The phases of flushing, and the order of its cutaneous phenomena, are carefully considered, in detail, and a good deal of curious and suggestive information is conveyed in this connection in regard to the situation and distribution of flushing, and the occurrence of sweating. Chapter VIII., on the causes of flushing, is especially instructive, and the next section, which recapitulates its pathology is also full of attractive speculation; the parallel which is here drawn between the phenomena of flushing and those of epilepsy is certain to command attentive consideration.

Dr. Campbell commences the third part of his book by defending his use of the term "morbid" in relation to blushing; his contention being, and with undoubted justice, that a habit which hampers the individual in his commerce with the world, which causes him to shun society and seek solitude, is essentially pathological in its character. Darwin's view that blushing is induced by one of the three mental states, shyness, shame, and modesty, is fully accepted by Dr. Campbell, who devotes considerable space to a discussion of the important subject of self-consciousness in this association. Respecting voluntary blushing, our author seems to think that it is a somewhat rare accomplishment, since he records that his knowledge extends to only one case, and that merely by hearsay. He does not, however, reject the possibility that persons so endowed may exist, but their number he regards as very few. The causes of blushing and the phenomena accompanying the act are fully dealt with, and the work concludes with a section on treatment, the object of which, it is shown, should be to remedy the general nervous instability that is manifested by flushing and blushing. The influence of plasma on structure and function is necessarily explained in this connection, and the production of nervous diseases fully discussed; and the importance of such aids as exercise, suitable diet, bathing, and the employment of remedies is fully and clearly stated. The book is well written throughout, and is an acceptable and very valuable contribution on a subject as yet but very inadequately discussed.

Œuvres complètes de J. M. Charcot. Tome IX. Paris: Lecrosnier et Babé. 1890.

The writings of M. Charcot are always singularly attractive. Probably no French author has such a power of dealing pleasantly with dry clinical material, and, excepting those of Trousseau, probably no writings have had such an influence on the ideas of his professional compatriots. This ninth volume of Charcot's collected works consists of three parts of unequal importance. In the first are arranged papers dealing with diseases of the eucephalon, principally cerebral hæmorrhage and its immediate and distant complications. These twelve contributions, dating from 1854 up to the present time, have done much to establish the pathology of cerebral hæmorrhage and softening as at present taught. A vast amount of clinical material is described in support of his views, and in a manner of which he alone is master.

The second part consists of the author's numerous writings on the much-vexed and obscure subjects of Metallotherapy, Metalloscopy, and Hypnotism. Although much was written on the subject of hypnotism before this, and principally by French authors, it was reserved for Charcot to give first a clear definition of the phenomena which constitute the hypnotic state. He insists that the various phenomena of hypnotism cannot be all referred to any one state of the nervous system,—that they must really be ascribed to a series of states. Of these we have his three fundamental types: (1) the cataleptic state, (2) the lethargic state, (3) the somnambulic state. These, however, all merge into each other; any one may present itself at the outset, and they may appear successively in varying order. The description of these is now too well known to require further notice here.

On considering the whole problem presented to us, we cannot avoid the conclusion that "suggestion" plays a far more important part than Charcot would have us attribute to it. His subjects are all drawn from the neuropathic class, and these, as is now well known, are especially liable to be influenced by "suggestions." We cannot consider in any other light the surprising phenomena of metalloscopy, metallotherapy, and the action of magnets and solenoids were described. These manifestations are practically confined to hysterical subjects, and, interesting though the subject may be, we feel that hypnotism and suggestion are tools too dangerous to be lightly used. The hope of being able to produce any wished-for mental or moral effect by this means rests on a foundation too slender and doubtful to justify us in reckoning on it as a reliable or even desirable remedial agent. Hypnotism is a pathological condition of the nervous system, and as such must not be lightly provoked.

The third section of the work treats of the use of Static Electricity in medicine. The subject being closely allied to the foregoing, it was considered that this was the best place in which to deal with it. The use of this agent is confined to hysterical patients—a class which is unfortunately increasing, especially in France.

The appendix, by M. Babinski, on "Grand et Petit Hypnotisme," is a *résumé* of the teaching of M. Charcot on various points of hypnotism, and worthily concludes the work. At the end of the volume will be found many excellent plates illustrating the papers included in the first and second parts. The whole volume will afford a very pleasant

means of grasping the views of the great French master; on the part of the editor, M. Bourneville, its compilation has evidently been a labour of love.

The Sei-I-Kwai Medical Journal.

THE recognised Medical Journal of Japan, the *Sei-I-Kwai*, which is edited and published by the Society for the Advancement of Medical Science at Tokyo, has undergone considerable enlargement, and now presents a much more imposing appearance than formerly. The Journal entered on its tenth year of existence in January, 1891, having been first issued in 1882, when the contents were written entirely in the Japanese language. Ever since 1884, however, each number has included English-written articles, and the present instalment contains no fewer than three original papers. One of these records a case of multinodular uterine fibroma, in which hysterectomy was performed; the second, a case of fracture of the base of the skull, followed by recovery; and the third describes a tolerably successful rhinoplastic operation. The native portion of the Journal, comprising forty-two pages of printed characters, includes an account of the proceedings of the Tokyo Society, and a number of selections from Japanese and foreign serials.

The International Review of Bibliography.

THE *Revue Internationale de Bibliographie Médicale Pharmaceutique et Veterinaire* contains each quarter a complete list of the publications relating to medicine and pharmacy which have appeared in the interval elapsing between its own issue and that of its predecessor. The work is now in the second year of existence, and each part is subdivided into sections under various headings, such as anatomy, bacteriology, gynæcology, pathology, &c. Marginal headings are employed to classify the books and papers according to the subjects treated of in them, and in every case in which a Journal is quoted full references are given to page and issue. As a record of the progress of contemporary medicine and surgery, the *Revue* possesses a value which it is hardly possible to overestimate.

Modern Abdominal Surgery. By Sir T. SPENCER WELLS, Bart., F.R.C.S. London: J. & A. Churchill.

THIS little work comprises a report of the Bradshaw Lecture for 1890, which its author delivered in December last before the Royal College of Surgeons of England, to which is added an appendix on the castration of women. This is the reprint of an article contributed in 1886 to the *American Journal of the Medical Sciences*, and Sir Spencer Wells gives as the reason for incorporating it with his lecture on abdominal surgery, for issue to the profession, "the continued and apparently extending abuse of the unnecessary mutilation of young women."

In the Bradshaw Lecture the question of anæsthetics is discussed, and a very strong preference in favour of bichloride of methylene as a far safer agent than chloroform or ether, is expressed; indeed, the writer goes so far as to hint that the employment of the latter agents rather than the former throws a criminal responsibility on the operator. Distinct utterances are pronounced also on the question of drainage of the peritoneum, and the treatment of the abdominal cavity by flushing and washing. All these methods of procedure have been abandoned by Sir Spencer Wells in almost every case, his plan being to sponge carefully with warm, soft, moist sponges, and close the wound without making any provision whatever for drainage of the cavity. The results he records fully justify his faith. The treatment of uterine tumours, oöphorectomy, and the surgery of the various regions within the abdomen, are each in turn discussed, and the enormous advances made in this direction in recent years are strikingly illustrated and eloquently described by the greatest living master of abdominal surgery. The little book will be generously welcomed as a useful *résumé* of modern surgical progress.

The Central Nervous System. By Dr. LUDWIG EDENGER. Translated by Drs. VITTUM and RIGGS. Philadelphia: F. A. Davis. 1890.

THIS work consists of an English translation of the text of twelve lectures on the structure of the Central Nervous System, delivered in 1883-4, before a number of German physicians, by Dr. Edenger, of Frankfort.

The first lecture is mainly historical, and the second deals with the embryology and comparative anatomy of the brain; its general confirmation and histology are discussed in the third, and the fourth describes the surface convolutions and fissures. The three following chapters contain an account of the cerebral white substance, the corona, the commissures, corpora, thalamus, and the basal structures and subthalamic region. Lecture eight is devoted to the pores and cerebellum, and nine and ten to the spinal cord and ganglia, with the nerve-roots. Medulla, tegmentum, and pores form the remaining subjects considered, and the book concludes with a useful index.

Of its value as a guide to the finer anatomy of the central nervous system, it is possible to speak in terms of high praise. The descriptions given are clear, accurate, and comprehensive, while at the same time, free from a burdensome diffuseness; the illustrations, too, are both numerous and excellent, and, particularly those relating to the subthalamic region, are of the utmost possible service as a guide to the due understanding of the text. One great feature of the book is the reasonable dimensions within which it is compressed, and this while preserving its full usefulness as a complete guide to the subject it considers. It has been admirably rendered into English by the translator, and the publishers have done it ample justice by presenting it in an attractive and elegant dress.

A Manual of Public Health. By A. WYNTER BLYTH, M.R.C.S., F.S.G., &c., Barrister-at-Law, Medical Officer of Health and Public Analyst for St. Marylebone, &c. London: Macmillan & Co. 1890.

THE lack of practical handbooks to Sanitary Science, which was very marked but a few years since, is rapidly being remedied, and the volume before us is evidently intended to compete for a share of the popularity hitherto almost monopolised by Parkes' masterly treatise. Over the latter Dr. Blyth's work has the advantage of having been written by one who has had every opportunity of becoming acquainted with the working details of his special department as relating to the requirements of civil life, and who has availed himself of his opportunities to produce a work intended to enable aspirant health officers to master the salient facts in each sub-division of this Protean science—preventive medicine. It is, of course, a difficult task, hardly capable of accomplishment, to

compress, within the limits of even such a volume as this, information on such a large variety of topics, but, in as far as this admits of being done, the author may claim to have succeeded. The arrangement of the matter gives evidence of some originality, though we are occasionally reminded that originality is not necessarily *per se* an improvement. The work is divided into twelve sections, each one dealing with a group of subjects more or less germane to each other. That on statistics strikes one as rather meagre, considering the importance of the subject. Several pages are devoted to the description of various "aids to calculation," the practical value of which we must leave it to others to decide. The section on air, ventilation, and warming is, on the other hand, well conceived, closely argued out, and unusually complete. The direct bearing of the various factors on the problem with which the medical officer of health has to grapple is clearly demonstrated, and the various mechanical appliances used in ventilation are described and classified. In several instances, however, a little more elaboration would materially assist the reader in understanding the description. Some of the calculations for which directions are given, may well frighten the beginner, but he may comfort himself with the reflection that these are not likely to be asked in examination or required in practice. A glance through the other sections suffices to show that they are not all of equal merit. Meteorology is rather scurvily treated, while the all-important subject of water supply and analysis receives the attention it merits. Of course there are omissions, but these may be explained on the ground that, as it was impossible to squeeze everything in, the author has selected what he conceives most essential, and we have little fault to find with his choice. Sanitary law is not comprised within the scope of the work, but this subject is sufficiently comprehensive to demand and receive special and separate attention.

We must congratulate the author on his lucid and pleasing literary style, and the publishers on the satisfactory manner in which they have executed their share of the undertaking. The illustrations are numerous, and the coloured plates (drawn by Mrs. Blyth) are true to nature and artistically commendable. Happy the author who can command the services of so talented a coadjutor!

Researches in Medico-Organisms. By A. B. Griffiths, Ph.D., F.R.S.E., F.C.S. London: Baillière Tindall and Son.

This work is not a manual of practical Bacteriology, but deals with recent researches in various branches of the subject in so far as they throw light on the pathology and treatment of infectious diseases. It is, in fact, an essay on Bacteriology applied to Medicine. The author is neither "physician nor surgeon," to quote Pasteur's words, and he repudiates any desire to trespass on the domain of either. No apology, however, is needed, for, at the present time, the bacteriologist holds a position akin to that of the chemist who elaborates new compounds, and hands them over to the physiologist to be examined and reported upon. So the bacteriologist investigates the natural history of the infinitely little, and places the results of his labour at the disposal of medical men, to be utilised in such way as may appear best. The bearing of many recent discoveries in this field on practical medicine is by no means always clear, and the author has had in view to show, to what extent and in what manner, such researches may be turned to account. A chapter or two on the history and *technique* of this department of scientific research pave the way to the consideration of microbes generally, including the pathogenic and the non-pathogenic varieties, as found in air, soil, and water. The next step is the description of the so-called "animal alkaloids," elaborated by microbes as part and parcel of their life-work. This chapter is interesting as well as suggestive, for we are still far from the goal in our knowledge respecting these potent and often lethal agents. We are fain to confess that we do not share the author's sanguine anticipations of the beneficial results likely to follow the use of chemical agents possessing the power of destroying the vitality of microbes. Chemically, at any rate, very little progress has been accomplished in this plan of treating disease, and the tendency of modern therapeutics is in another direction. Hence one's interest in the study of chemical germicides is a trifle languid. We may instance Bergeon's treatment of phthisis as a case in point. The author certifies from direct experiment that the gaseous enemata destroy the bacillus tuberculosis and its spores, and there is no reason to doubt the accuracy of his laboratory experiments; yet the treatment has been weighed in the scales and found wanting. In spite of the strongest *a priori* presumptions in its favour the treatment has now been generally abandoned as a failure. The author has even ventured on a method of his own, consisting in inhalations of iodine, and he quotes a case to prove its efficacy in the person of a Mr. Snodgrass, jun., a gentleman with a thirteen-years' history of pulmonary disease. This patient affirms that "the inhalations of iodine have certainly put the hand back on the dial in my case for nearly two years," but something more than this will be required before Government will think it necessary to ennoble the inventors of the method. The author's views may be summed up in the concluding remark that "there is undoubtedly a great future for the treatment of microbian diseases by chemical methods, the most rational and scientific method being the injection of germicides." From this view we dissent, but the purely scientific part of the work contains much matter of general interest to the physician.

On Severe Vomiting during Pregnancy. By Graily Hewitt, M.D., F.R.C.P., &c. London: Longmans, Green and Co. 1890.

This monograph is based upon a paper read by the author, two years ago, before the American Gynæcological Society, and consists of a collection and analysis of authenticated cases of severe vomiting that occurred during the last quarter of a century. First of all the author, after proving that vomiting does not exist in every pregnancy, and that it cannot be therefore as a philosophical and necessary accompaniment of it, comes to the conclusion—which must be admitted to be logical—that it must therefore be pathological.

(I.) Vomiting occurring in pregnancy—that is, independent of the state itself—though, perhaps, intensified by it. (II.) Vomiting of pregnancy which is produced by it. This last category is further subdivided into four groups, viz.:—(1) Cases which were associated with retroflexion or retroversion of the gravid uterus. (2) Cases in which uterus was—probably in all—in a state of anteflexion. (3) Cases where some inflammatory changes—within or near the uterus—was noticed. (4) Miscellaneous cases. By the analysis of the cases he next shows the various

uterine abnormalities met with in their order of frequency, viz., as follows:—(1) Uterine displacements, together with impaction, fixation, or detention of uterus in pelvis; (2) rigidity, contraction, &c., of cervix uteri; and (3) inflammatory changes in or near the uterus. By a further analysis of the various methods of the treatment adopted, a comparison of the curative effects is come to—and this, we must confess, certainly strengthens the theory put forward by the author in 1871, and in the "Obstetrical Transactions." In the course of his analysis the author explains the *modus operandi* of Copeman's treatment, as proving his theory in the fact that dilatation of the os uteri will very likely help to straighten an antiverted uterus; and by the further fact that, in cases where some pathological changes exist in the walls of the uterus, dilatation does not cause vomiting.

Hewitt's criticisms of the author's theory are refuted by an analysis of this observer's own cases, and, in fact, the author brings forward observations made by various observers—chiefly Marano—in proving his case. In short, the analysis and criticisms are very ably and impartially done, and the perusal of this essay cannot but add to the knowledge of this important subject.

The New Sydenham Society's Lexicon of Medicine and the Allied Sciences. By HENRY POWER, M.B., and LEONARD W. SEDGWICK, M.D.

THE seventeeth part of this elaborate work deals with innumerable subjects included under the letter "M," commencing with *Maschale*, the armpit, and terminating with an account of the ancient Mithridate, or the confection composed of many substances, and supposed to contain the antidote to all poisons. Among the numerous references, we may refer more particularly to those dealing with Mastication, the Maxillæ, and the Maxillary Nerves, the many Meatuses of the body, the Medulla, the Medulla Oblongata, Melancholia in its Protean forms, and on Micrococci as being of special excellence and comprehensiveness. This number is well up to the high standard of the preceding parts, and contains information of a most varied nature, not only upon strictly medical subjects, but upon many cognate ones. We cannot speak too highly of the learning and labour involved in the compilation of this work, which will undoubtedly serve as a standard work of reference, not only to members of the medical but to those of other scientific professions.

Anales de la Asistencia Publica, II.—Buenos Aires. December, 1890.

THE State of Buenos Aires seems to be possessed of plenty of energy. In June of last year the Director-General inaugurated a scheme in which the Medical Profession in the State were to band themselves into an association called "The Consultative Committee of the Asistencia Publica," a kind of State-organized body, which should have the following functions:—

(1) To advise the Director-General, when required, in medical matters of public importance.

(2) To organize, improve, and extend the action of the public medical service.

(3) To advance medical knowledge by holding conferences and scientific meetings.

(4) To issue a series of "Annals," containing an account of the work done and reports of papers read.

The matter was vigorously taken up, as we may see on perusal of the present number of the "Anales." This publication will appear monthly, and should prove of great service to our Spanish-reading brethren. The chief points in this, the second fasciculus, are as follows:—(1) A paper on the use of Koch's remedy, giving the experience both of German and local observers. On this we need make no comment. (2) Remarks, by Dr. J. Esteves, on "Hysterical Fever." This neurosis seems to be quite Protean, and a case described simulated at one time an attack of peritonitis with anuria (but without due relation between temperature, respiration, and pulse-rate), and at another time might have been mistaken for acute rheumatism. A third attack resembled coxalgia. Useful diagnostic hints are given. (3) The history of the influenza epidemic of last year in the Argentine Republic. This is an excellent summary, and will be continued in the next number. (4) "Speculations on the Causation of the Sensations of Hunger and Thirst," by Dr. J. R. Costa. This involves a careful study of the phenomena of digestion, normal and pathological, and will be of interest both to physiologists and clinicians. The work concludes with notes on the meteorology and sanitary condition of the State, and should prove a valuable addition to our already long list of medical literature. We wish all success to this, the youngest Medical Society.

Influenza, or Epidemic Catarrhal Fever. By E. SYMES THOMPSON, M.D., F.R.C.P. London: Percival and Co. 1890.

PROF. E. SYMES THOMPSON has accomplished a valuable and timely work in the re-publication of his father's well-known and comprehensive historical survey of the epidemics of influenza which have prevailed from time to time in this country. "The Annals," as they are now presented, being revised and completed to include an account of the outbreak for which the year 1890 will be ever memorable in medicine. It is of course still too early to expect to have what might be considered a satisfactory record of the recent epidemic, but so much description of it is given in this work as suffices to give finish to the review that it presents; while the quotation of authorities by whom the most instructive observations in this connection have been made contributes very largely to increase the usefulness of the book to the student of disease.

The main contents of the book comprise the accounts of various epidemics of the disease which afflicted the country from 1510 to 1848, as they were contributed by the principal writers who devoted attention to them. The first history quoted is that given by Dr. Short, of the disease which overran the whole of Europe in 1510, and the prominent symptoms of which were pain, dyspepsia, and prostration, but which was fatal only in the case of children. Wilks' and Sydenham's descriptions of the epidemics of 1658 and 1675, respectively, are followed by a brief account of those which occurred in the years 1688, 1693, and 1709. Huxham's observations on the 1729 visitation contain many suggestive remarks, one being to the effect that it was usual, in treating the cases encountered, to promote free diaphoresis, for which purpose the favourite plan was to cause large quantities of warm white-wine whey to be consumed by the patients; and, he affirms, such an amount of it was at one time so used "that the country round could scarce supply milk enough to make it." The medicines em-

ployed are thus described :- "Lap. contragero., sp. volat. oleos., sp. e.c., sp. Larland. c., elixir asthmat. le mort., with draughts made of spermaceti, dissolved in some small pectoral decoction, or else very weak milk-whey, which generally eased the cough, and promoted the salutary sweats." Cough is mentioned as very violent throughout the disease, and numerous remedies for its easement are indicated, and it is asserted that fatal results were rare, save as the consequence of improper treatment.

The epidemic of 1782, as described by Dr. R. Hamilton, presents many characteristic features of resemblance to that of 1890, and the comparison it suggests is highly interesting. Dr. Hamilton records that the patients complained "of a stoppage in the trachea, giving them the sensation of a ball loosed there, a coryza, or running of a thin acrid mucus from the nose always took place, so as to excoriate the upper lip and vellicate the Schneiderian membrane; a violent sneezing, a pain of the head, much increased by the last symptom, and most severe in the course of the frontal sinuses, a soreness over the eyes, chiefly about the eyebrows, which they said was seated in the bone. This rendered the eyes stiff, and painful to be opened, nor could they bear a strong light. A rheum also distilled from them, not unlike what we see in measles. Universal pains over the body, in most only a slight fever; in others it rose very high, with a considerable acceleration of the pulse, faintness, &c." Dr. Haygarth's dissertation on the epidemic of 1782 contains an interesting study of the contagious nature of the disease, his opinion being strongly in favour of this view of it. In this conviction he writes, "it is certainly of much importance to know" that "persons ill of other diseases, or debilitated by age, may be preserved from the contagion by cautious *separation*, so as to prevent every patient ill of the distemper from approaching them; and by strict *cleanliness*, so that no dirty clothes, &c., which can contain infection, may be brought to them."

Dr. Symes Thompson's own account of the epidemic of 1889-90 will receive the special attention it deserves as a careful and tolerably comprehensive *résumé* of the natural history of the disease. The sections dealing with diagnosis and symtomatology are particularly interesting, and will at once recall the series of events which became so familiar to those in practice while influenza was in our midst last year. As to treatment, our author considers that "no known drug or method of treatment proved to be possessed of the power to cause the attack to abort or be sensibly abridged." Rest and warmth are placed in the first rank as a measure for adoption, administration of a mild laxative followed by a stimulating diaphoretic, and later, quinine and iron are given as the suitable agents to be employed. To the etiology of the disease considerable space is devoted, and the malarial theory of its origin is discussed as based on insufficient grounds; and the probability of its connection with the condition known as "pink eye" in horses is propounded, on grounds that carry a considerable amount of conviction. The course of the epidemic, and various statistics relating to it, are fully discussed, and a chapter is added on influenza in schools.

This revision and extension of an important work will be widely welcomed as a useful and suggestive study by all whose labours brought them into close observation of the epidemic which is still so recent as to be fresh in our memories.

Notes on General Pathology. By J. Ryland Whitaker. Edinburgh: E. & S. Livingstone. 1890.

This little book contains, as its title indicates, short notes on General Pathology. It is not intended as a text-book, but merely as a guide to the student in attending lectures, or in reading standard works on the subject. It contains all the important points, arranged more or less in tabular form, very much as many students are in the habit of doing for themselves when studying the subject. It cannot fail to be useful as an aid in preparing for examinations, and is a means of refreshing the memory when, as too often happens, one's pathological knowledge grows a little rusty.

Notes on Typhoid Fever: Tropical Life and Its Sequelæ. By John Marston, M.D. London: H. K. Lewis. 1890.

Dr. Marston's experience as a military medical officer has given him many opportunities, which are not open to the civilian, of observing disease, as it occurs, in various climates, among men, living in community, whose mode of life, habits, and susceptibility to disease are known. This little book is founded upon the experience thus gained. The first four chapters are devoted to an account of the symptoms, course, complications, and treatment of typhoid fever. The fifth chapter contains an account of the etiology of typhoid fever in India. "Tropical Life and its Sequelæ" forms the subjecto f the sixth chapter, and the book closes with a chapter on "Abscess, and other Tropical Diseases of the Liver." This little work is particularly worthy of perusal by military and naval surgeons about to proceed to tropical stations.

New Articles.

THE CEYLON TEAS OF THE MAZAWATTEE CEYLON TEA COMPANY

Since our last issue an opportunity has been accorded us of tasting the tea grown on the Gartmore Estate, at Ceylon, that has recently caused such a sensation in London, and that was purchased by the above-named Company, at Mincing-lane, at the extraordinary price of £10 12s. 6d. per lb. To say that this specimen of the "cup that cheers, but not inebriates," was of exquisite flavour, and the finest we ever tasted, is but giving the barest testimony of praise to an article of such universal consumption, and to the care and skill bestowed by the growers on its production; but to say, that we could have supposed (had we not known it) the liquor we drank was of such commercial value would be an untruth, and although we have a decided *penchant* for tea, none but an expert in the trade could, in our opinion, fully appreciate its costly character. Looking at the tea itself, it is totally different in appearance to what we are accustomed to. The tips of the leaves, which are very small, attributable to their being the first minute shoots of the bush, are of a golden colour; and leaving the colour out of the question, it has more the appearance of the Yerbu, or "Maté" (*Ilex paraguayensis*), the Paraguayan tea, so much drank amongst the natives of South America, though not quite so small as the Maté, though it bears no other resemblance to it in taste or quality. That Ceylon bids fair soon to outstrip both India and China in the quantity, as well as quality, of her teas, is a matter of

fact; but a tea of this costly nature will, we opine, ever be a *rara avis*, for from the large number of bushes required to produce a very small quantity we question if any but the most enthusiastic of planters would continue to relegate the necessary portion of his estate to the production of it. This exquisite tea is grown at an altitude of 5,000 feet above the level of the sea, and it is said the finest qualities cannot be grown at a much lower level, as the increasing height correspondingly improves their bouquet and flavour. This is explained by the low temperature at night, experienced at so high a level, as compared with the warmer ones on the plains or lower levels; and although the cold checks the growth of the bushes (thus making the crops at the high elevation smaller), such of the leaves as are gathered are found to be very superior in all respects. When we add to this the fact, that to produce such a tea as the one in question only the first shoots, almost before they form a leaf, are picked, and by this means the plants are rendered valueless or unremunerative for some weeks afterwards, a faint idea may be formed of the cost attending its production; then, again, it is sun-dried, and it has to be watched and manipulated with great care (the usual commercial or ordinary mode of drying being altogether discarded), a further cost in production is necessarily incurred. This much for the enterprise of the Mazawattee Ceylon Tea Company; but, of their ordinary trade in tea, we may mention that their warehouses on Tower Hill are the largest of any private tea company in the kingdom, consisting of eight extensive floors and giving employment to over 250 experienced hands. They contain, amongst other appliances, three of the largest tea mixers extant, each of which is capable of blending nearly one ton of tea at a time.

NEU RAGOCZI MINERAL WATERS.

We have received for examination samples of No. 1 and No. 2 Neu Ragoczi waters, obtained from springs in Saxony. No. 1, as appears from the analysis made by Mr. Harland, Public Analyst for Greenwich, is a ferruginous aperient, containing a large proportion of the sulphates of magnesium, potassium, and sodium, together with chloride of sodium, carbonate of iron, &c. This combination is one which will commend itself as belonging to the class of aperient waters which do not leave behind them the flaccid condition of the intestinal walls which result in subsequent constipation. It is, moreover, comparatively speaking, palatable, and we have ascertained that its efficacy leaves nothing to be desired. No. 2 may be regarded as a milder aperient, or as a table water in certain cases of a tonic dyspepsia. Its composition is the same in kind, differing only in strength from No. 1, 340 grains of solid matter per gallon as compared with 727, the chalybeate constituent alone being greater in No. 2. We can commend the water as palatable, effectual, and reliable. It is supplied by Neu Ragoczi Co., Ltd., 155, Fenchurch Street, E.C. Subjoined is the analyst's report :—

"Plough Court, 37, Lombard Street.

"I have carefully inspected and tested two mineral water springs on your estate, Neu Ragoczi, Saxony. The springs, or wells, have been in use for the past sixty years, and yield an abundant supply of clear, sparkling saline water, containing much carbonic-acid gas. The two wells are situated some fifty yards from each other, and are of considerable depth. No. 1 spring is strongly saline and ferruginous, and No. 2, while equally ferruginous, is less saline, and therefore more suitable for general drinking or table purposes, where a mild aperient and tonic water is required. Both waters are of even temperature and constant chemical composition. The following are the complete analyses of the samples taken by me from the wells on the occasion of my visit :—

	No. 1. Grs. per gal.	No. 2. Grs. per gal.
Carbonate of Lime	19·25	15·05
Sulphate of Lime	11·90	7·47
,, Magnesia ...	16·03	10·29
,, Potash ...	4·48	4·90
,, Soda	21·98	14·75
Chloride of Sodium (Salt)	647·29	281·75
Silica	2·10	1·82
Carbonate of Iron	2·24	2·52
Alumina	·07	·21
Volatile matter	2·10	·35
	727·44	340·13

"It will be noticed that the constituents are the same in each case, and only vary in amount, No. 1 being stronger as an aperient than No. 2, and possessing less chalybeate properties; it must therefore be regarded as a medicinal water. They are both pleasant to the taste, and well fitted to rank among the best mineral waters for their salutary and agreeable qualities.

"R. H. Harland, F.I.C., F.C.S.,
"Public Analyst to Greenwich."

Patents.

[*This list is specially compiled for the* London Medical Recorder by Messrs. Rayner & Cassell, *Patent Agents, of* 37, *Chancery Lane, London, E.C.*]

4,151. A combined bronchitis kettle, bronchitis inhaler and vapour diffuser. Arthur Herbert Wood, 49, Wells Street, Oxford Street, London. March 9.

4,298. Improvements in abdominal trusses or belts. Alfred Julius Boult, 323, High Holborn, London. March 10.

4,338. Improvements relating to poultices. William Henry Kerr, 45, Southampton Buildings, London. March 11.

4,664. The elastic flexible safety truss. Charlotte McCallum, 166, New Kent Road, London. March 16.

4,772. A new compound for general healing and for disinfecting purposes, to be known as "Service acid." Emile Serrant, 166, Fleet Street, London. March 17.

4,852. An improved binocular optometer, or eyesight testing instrument. Edwin Saunders, 121, Grandison Road, Clapham Common, London. March 18.

5,161. The cure of incipient colds, influenza, neuralgia in the head, and affections of the nose. Benjamin Wechsler, 34, Gray's Inn Road, London. March 23.

5,353. Improvements in inhalers. Sidney Jorwerth Mansel-Howe, 151, Strand, London. March 25.

5,602. An abdominal belt. Samuel Young, Wickham Road, Chichester. April 1.

5,751. Improved mixture for dyspepsia, or such-like ailment. CECIL COX, 27, Martin's Lane, Cannon Street, London. April 3.

5,759. Improvements in walking-sticks for carrying medicines, instruments, and the like. HERBERT JOHN HADDEN, 15, Buckingham Street, Strand, London. April 3.

5,760. Improved appliances for facilitating the carrying to and fro of invalids when seated on chairs. ALFRED HORSFALL HOWSON, 24, Southampton Buildings, London. April 3.

5,781. Improvements in faucets. WILLIAM ROBERT LAKE, 45, Southampton Buildings, London. April 3.

SPECIFICATIONS PUBLISHED.

20,054. DAVIDSON. Dental forceps. 1890. 9d.
6,372. COHEN. Medical induction coils. 1890. 9d.
19,667. LEATHERS. Medicine tank. 1890. 7d.
6,630. POTTER. Artificial teeth. 1890. 5d.
9,692. HEWITSON. Bandages, etc. 1890. 7d.

The above specifications may be had of Messrs. Rayner & Cassell, Patent Agents, 37, Chancery Lane, London, W.C., at the prices quoted.

[Should any of our readers desire to take out patents for inventions, either English or Foreign, and require advice upon the subject, the "Patent" Editor will be pleased to give them the benefit of his knowledge and experience. Communications addressed to the "Patent" Editor, *Medical Recorder*, 13, Waterloo Place, Regent St., S.W., will receive prompt attention.]

Miscellany.

A PATIENT, in the Cork Asylum, on whom asophagotomy was performed for obstruction in the throat, and a stone weighing 630 grains removed, subsequently died from exhaustion, after an attack of maniacal excitement. At the *post-mortem* examination eight stones were removed from the intestines, one an inch and a quarter in length, and about half-an-inch thick; and two rectangular stones almost as big, as well as smaller ones.

LEPROSY COMMISSION.—It is expected that the inquiry being instituted by the Leprosy Commission will not be completed until the end of the year. Dr. Rake and Surgeon-Major Thomson have returned to Calcutta from Burmah, and after conferring with their colleagues, Dr. Buckmaster, Mr. Kanthack, and Surgeon-Major Barclay, will probably next pursue their inquiries in the North-West Provinces and the Punjab. The laboratory work will be deferred until the hot season.

PROFESSIONAL SECRECY.—In a recent judgment delivered by the French Court of Appeal, in which a widow had brought an action against a life-assurance company for the amount of her husband's policy, which the company declined to pay on the ground that the medical man attending had refused to fill up the usual form, stating the disease and its duration, under the plea of professional secrecy. The court decided against the company, holding that the medical man should be the sole judge as to whether facts revealed to him by a patient were confided to him under the seal of professional secrecy.

FACTORY LEGISLATION.—Mr. Matthews' Factories and Workshops Bill has been referred to the Grand Committee on Trade, and Sir Henry James has given notice of a number of amendments which he intends to move, embodying in the measure the main provisions of his own Bill on the same subject. Sir Walter Foster and Dr. Farquharson have been placed on the Grand Committee, and a vigorous fight will be maintained to prevent the abolition of the services of the Certifying Factory Surgeon, on which the Home Secretary seems so bent.

THE MEDICAL GENERAL COUNCIL.—The term of the Direct Representatives in the General Medical Council will expire on the 29th of November next, and an election will be then held for their successors. The representatives outgoing are, for England, Dr. Wheelhouse, Sir Walter Foster, and Dr. Grey Glover; for Scotland, Dr. Bruce; and for Ireland, Dr. Kidd. A committee has been appointed by the Executive Committee of the Council to draw up a code of regulations for the conduct of the approaching election. It consists of Mr. Richard Quain, Sir Wm. Turner, Mr. Wheelhouse, and Mr. Macnamara.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—PARKIN BEQUEST.—In terms of the Bequest made to the Royal College of Physicians of Edinburgh by the late Dr. John Parkin, Fellow of the College, a prize is hereby offered for the best essay:—"On the Curative Effects of Carbonic Acid Gas or other forms of Carbon in Cholera, the different forms of Fever, and other Diseases." The prize is of the value of one hundred pounds sterling, and is open to competitors of all nations. Essays intended for competition, which must be written in the English language, to be received by the secretary not later than 31st December, 1892. Each essay must bear a motto, and be accompanied by a sealed envelope bearing the same motto outside and the author's name inside. The successful candidate must publish his essay at his own expense, and present a printed copy of it to the College within the space of three months after the adjudication of the prize.

GERMAN SURGERY IN AMERICA.—The following paragraph is taken from a Nebraska newspaper, according to the *Journal de Médecine de Paris*, 15th March, 1891:—A few evenings ago, a crowd comprising the *élite* of the Omaha medical practitioners, thronged the People's Theatre to witness the performance given by the doctors of the Great German Policlinic. Several surgical operations of great difficulty were about to be undertaken, and brought to a successful termination in the presence of the assembled public. The first case was one of a large tumour of the right cheek removed from the person of William Villiers, billiard-marker in the Millard Hotel. The operation was remarkably performed, and the result will be that before long William Villiers will be perfectly well. Another operation requiring great skill was the cure of a squint in the case of a little boy, aged eight, the son of Mr. F. M. Kiger. Cases of this description require the greatest attention and experience, but they afford the best proof of the skill possessed by the doctors of the Great German Policlinic. These representations are extremely instructive and agreeable. There is nothing tiresome about them, and the ladies are especially plased by them. The doctors can be consulted every day at their office in Barker's Buildings. Operations and Conferences every evening at 8 o'clock in the People's Theatre. Entrance free to all.

The London
Medical Recorder.

CLARKE ON LESIONS INDUCED BY ENTERIC FEVER.*

THIS paper records a number of the lesions following or attending typhoid fever, of which the writer appears to have had a wide experience. The literature of the disease mentioned is voluminous, but the present aspect is one comparatively recently dealt with by authors. Several of the cases mentioned are of great rarity, and should be of service to investigators as indicating lines of future enquiry.

The writer has met with three cases of aphasia in young people, aged twelve, fourteen, and seventeen years. In each the temperature had been unusually high, and much exhaustion had ensued. The aphasia occurred during the second week, was not accompanied by other paralysis, and eventually ended in complete recovery.

A married woman, thirty-one, complained of pain in the eyes five weeks after the onset of typical typhoid. Examination by the ophthalmoscope revealed double optic neuritis. During the illness the patient had been very delirious, and had become much exhausted. After the return of temperature to normal, she suffered from perversion of the senses, and ultimately became partially insane. There was no history of renal trouble, although the urine contained traces of albumen. The patient finally recovered without loss of vision. Dr. Oglesby, of Leeds, says he has never met with a case of the kind without a distinct history of meningitis. He also adds that most of them have objective symptoms of kidney disease, although albumen is rarely found in the urine.

Severe laryngeal inflammation occurred in a man forty-one years of age, dyspnoea setting in on the fortieth day. During the next fortnight respiration became more and more difficult, and at length the patient seemed in danger of imminent suffocation. An abscess found extending into the laryngeal perichrondrium was opened under cocaine on the sixty-first day. The patient ultimately recovered, though a laryngeal stenosis persisted, which probably contributed to the fatal result of an acute attack of pneumonia two years later.

Four cases of pneumonia are noted. This complication developed in the third week in a female eighteen years of age and proved fatal. The other three patients were aged seventeen, twenty, and thirty-four years. In two the area of dulness was limited. In the third the whole right lung was involved, and the patient did not recover until four weeks after the onset of the lung complication. A woman of thirty-four developed pleurisy of the right side with limited effusion in the sixth week. She recovered with slight retraction of the chest, but died two years later from phthisis.

Facial erysipelas followed once in a man forty-one days after commencement of fever, and went on to abscess. Parotiditis occurred in a man aged thirty-seven, on the tenth day of typhoid of a severe type. Suppuration did not result, although the inflammation spread to both cervical and axillary glands. Death took place on the twenty-seventh day. During the Peninsula campaign inflammation of the parotid was regarded as a very dangerous complication.

Paraplegia followed a moderate attack of enteric fever in a male, aged twenty-nine. Temperature fell to normal in the fourth week, but the patient was unable to stand. Recovery ensued in a few weeks. Dr. Clarke has seen two cases in which the circumflex nerve was involved. Both recovered. In another case, a child of seven shewed partial aphasia from paresis of the soft palate, resembling that seen after diphtheria. She improved, under treatment, but was lost sight of before complete recovery had taken place.

Two cases of periostitis are mentioned. The first patient was a girl of nine, who suffered from typhoid for upwards of three weeks, and then recovered so far as to be able to walk about the room. A relapse then occurred, with unusually high temperature and delirium. After the fourth week of the relapse the left elbow-joint became inflamed and much swollen. Suppuration of the joint followed, necessitating a deep incision, by which a large amount of pus was evacuated. The first abscess appeared in the periosteum near the elbow-joint, and was followed by others along the shaft of the ulna. An ultimate discharge of several pieces of necrosed bone was followed by recovery with a stiff elbow. The second case of periostitis occurred in a lad of thirteen, who also got through an attack of typhoid so far as to leave his bed in three weeks. Soon afterwards, however, he had repeated chills, with much constitutional disturbance. A swelling developed in the right thigh, just above the knee, which was opened five weeks after the onset of the fever. Complete recovery followed.

Dr. Affleck's observations on periostitis are quoted. He met with three caases out of 117 under treatment in the Edinburgh Royal Infirmary. Two were in young men. One had periostitis in the right tibia on the third week of the fever, which was thereby prolonged for four weeks, when the patient recovered. The other showed periostitis in the third week in the right humerus, and soon afterwards in the right tibia. After apparent recovery an abscess appeared in the humerus, which ultimately recovered. The third case was a girl of nine, who had a very severe attack of typhoid. In the fifth week, just as the temperature was falling, she was attacked with periostitis in the right humerus. No abscess formed, but the tender swelling persisted for six weeks. Sir James Paget has observed that periostitis may be counted among the sequels of this disease, but Dr. Affleck points out that it may be regarded as a complication no less than a sequel of enteric fever.

With regard to the etiology of the sequels and complications of typhoid fever, it may be remarked that the typhoid bacilli and their ptomaines produce such changes in the tissues as to diminish their resisting power. The locality of the lesions and their extent will depend, no doubt, largely upon the susceptibility of the patient, the degree of exhaustion of the nutritive functions, and upon the nature, potency, and perhaps quantity of the invading cocci.

* *Journal of the American Medical Association.* April 4, 1891.

THE COLLEGE OF STATE MEDICINE.—Professor W. R. Smith, M.D., D.Sc., has resigned the office of Professor of Hygiene and Public Health in this institution.

THE PHYSIOLOGICAL AND THERAPEUTICAL EFFECTS OF BROWN-SEQUARD'S TESTICULAR EMULSION.*

Dr. Bogroff, of Odessa, publishes an able contribution on the subject, which continues to attract considerable attention of the profession in Russia.

I.—THERAPEUTICAL EFFECTS.

The author's clinical observations were conducted on four patients suffering from virile impotence and sixteen insane, of the latter six simultaneously suffering from scurvy of a very severe form, and one from generalized furunculosis.

(1) *Sexual impotence.*—The patients' age varied from twenty-nine to forty-nine, the duration of the affection from one to four years. Of the four cases, in one the injection failed to make any impression, while the other three were cured. In one of the successful cases the very first injection was followed by an excessive sexual excitement, which, however, gradually subsided, the patient retaining a normal sexual power ever since. (Six months elapsed.) Another gentleman recovered after twenty-two injections. The third case is the most instructive of the three, since it totally excluded any possibility of the effects of a "suggestion." The case refers to a neurasthenic gentleman with visible impotence of three years' standing, who had been previously treated by Motchutkovsky's suspensions with the result that his neurasthenia had disappeared, but impotence remained as bad as ever. For a long while he stubbornly refused to undergo Brown-Séquard's treatment, but ultimately, though very reluctantly, consented, believing still that it was good for nothing. After a tenth injection he declared that he was growing worse. After a twenty-second, however, his sexual power began to distinctly improve, and after a thirtieth became perfectly normal.

(2) *Furunculosis.*—The patient got rid of his obstinate disease after fifteen *séances*.

(3) *Scurvy.*—In one of the severest cases a course of the emulsion gradually brought about a considerable amelioration. The patient becoming convalescent, the injections were discontinued. An alarming relapse swiftly followed. The treatment being resumed, the patient's state again substantially improved in eight days, and a complete recovery ensued in about a month. In another case ten injections afforded a marked relief. As soon as the treatment was stopped, the disease relapsed, to rapidly end in death. In the remaining four cases the treatment, apparently, proved of no avail.

(4) *Mental disease.*—Of sixteen cases, in two decidedly beneficial effects were observed. One of the two patients was afflicted with *melancholia cum stupore*, not the slightest tendency to amelioration having been noticed during his eight months' stay in the asylum. After fifteen injections all serious symptoms vanished. The treatment being discontinued, his condition began to grow worse in a month or so. Another course of the emulsion again rapidly led to a great amelioration, justifying the patient's discharge (unfortunately he was subsequently lost from observation). The other patient, a man of thirty-two, was apparently suffering from a hopeless moral insanity with delirium of persecution, the disease having been stationary for the last three-and-a half years. After a course of the injections and twenty-eight enemata, a complete recovery ensued. No relapse yet occurred (three months have passed since his cure). In the remaining fourteen cases (three of epilepsy since infancy, four late progressive palsy, one cerebral syphilis with chronic alcoholism, one mania of ten months' standing, and four stupor), the therapeutical effects were *nil*.

II.—PHYSIOLOGICAL EFFECTS.

The main results may be summarized as follows:—

(1) Hypodermic injections of a rabbit-testicular emulsion (the only one employed) gave rise to fever in every one and all of persons experimented upon.

(2) The phenomenon cannot possibly depend upon some contamination or foreign admixtures, since it occurs even after injections of an emulsion previously passed through a Pasteurian filter.

(3) The pyrogenic effects seem to be due to the glandular elements alone, since the injection of an emulsion prepared of testicular tunica vaginalis or muscle tissue does not cause any febrile movements.

(4) While being observed in all persons, the febrile "reaction" by no means constitutes something like an "obligatory" or necessary concomitant effect of *every* injection. On the contrary, injections followed by fever may occur in the same person alternately with those causing no febrile rise. As a matter of fact, pyrogenic injections constitute about 33·3 per cent. of all injections.

(5) On certain days, all persons receiving the injections develop a distinct febrile "reaction," while on other days in none any pyrogenic effects can be noted. Curiously enough, the latter is nearly always observed in the case of a tenth, eleventh, and twelfth injection.

(6) The intensity of the fever varies according to the stage of the treatment. After the first two injections the febrile rise is but slight. After a third it attains its maximum level (never above 39·5° C., however). Such maximum elevation also occurs after a fourth, and, sometimes, a fifth *séance*, while subsequent injections are followed by a markedly milder "reaction."

(7) The maximum number of pyrogenic injections in individual cases, as well as febrile rises of the maximal tension, are observed in patients, characterized by a considerable failure of their general nutrition.

(8) The "reaction" commences in two or three hours after an injection, and attains its highest level in six or eight, after which the temperature swiftly sinks to the standard. In some exceptional cases, however, the duration of the "reaction" may surpass twelve or even fifteen hours.

(9) After discontinuing the injections, the systemic temperature becomes slightly subnormal, the morning fall amounting to 0·22° C., and the evening one to 0·25°. In other words, "an increased systemic combustion seems to be replaced by a somewhat decreased metabolism."

(10) In an overwhelming majority of cases, during the treatment the bodily weight moderately sinks (in the case of melancholia mentioned above, however, the weight fell eight pounds); in a small proportion of patients it remains unaltered, and that notwithstanding the occurrence of febrile movements. The latter fact can be explained only by an increased action of the digestive organs and an increased assimilation.

* By Dr. Alexandr G. Bogroff. (*Vratch*, No. 14, 1891, p. 367.)

(11) After discontinuing the injections, the body's weight always increases, the surplus varying from 1 to 25 (Russian) pounds (from 0·9 to 22·5 lb. avdp.)

(12) The daily quantity of the urine decreases both during and after the treatment, which is due to an increased action of the skin.

(13) In days of the injections the daily quantity of urea similarly markedly decreases, the diminution averaging 4·5 grammes. It is also diminished in the intervals, though to a much lesser extent (on an average, 2·25 grammes). The decrease of urea is observed not only after subcutaneous, but also after rectal, injections of the emulsion. There are many grounds to admit that the diminution is dependent upon the testicular emulsion increasing the systemic combustion of non-nitrogenous substances and, on the other hand, inhibiting disintegration of proteid bodies.

(14) In some patients the emulsion distinctly stimulates the secretion of saliva, the flow occasionally amounting to a genuine salivation.

(15) Appetite also increases, and that sometimes to an enormous degree.

(16) "The intestinal tone moderately increases."

(17) The manual muscular strength is augmented (that of the right hand twice as much as that of the left).

(18) The latent period of cutaneous reflexes is shortened during the injection course, and lengthened in the after period ("that is, the nerve conductibility at first increases, and subsequently is diminished").

(19) The period of a diminished conductibility coincides with that of an increased muscular strength. Hence the increase in the latter must be due either to some alterations within the muscle tissue itself, or to an intensified action of psychomotor cerebral elements

(20) Cutaneous sensibility is augmented, the increase continuing to grow even in the period of a lengthened latent stage of cutaneous reflexes, which part justifies the conclusion that "the emulsion also stimulates the action of cerebral cells, receiving peripheral cutaneous irritations."

(21) The vascular tone becomes lowered, as is shown by (*a*) frequently recurring flushings of the face and skin in general; (*b*) increased secretion of the saliva; and (*c*) increased perspiration, all of which phenomena are observed not only shortly after the injection, but sometimes for many subsequent days.

(22) The action of the testicular fluid on the cerebral tissue seems to consist, essentially, partly in inducing congestion, partly in altering the metamorphosis and composition of morbidly-changed nerve-cells.

(23) The proportion of hæmoglobine in the blood does not undergo any appreciable alterations.

(24) The pulse is usually moderately accelerated. Sometimes, however—especially in stuporous patients—it becomes slower.

(25) The cardiac action becomes stronger. The influence of the emulsion on the heart does not appear to have any connection with fever, since in one and the same patient the frequency of cardiac beats during a febrile rise may be lesser than during a non-febrile period.

(26) In qualitative regards, rectal injections of the emulsion act identically with hypodermic ones, the difference being only quantitative.

(27) Brown-Séquard's injections are quite safe—provided the emulsion is prepared and used with all sterilising precautions.

III.—SOME SUGGESTIONS.

(1) In view of the facts stated, *sub.* II. 9 and 13, the admission is justified that a decreased absorption into the subject's blood of products of physiological action of the testicular glands must lead to a decrease in oxidation of non-nitrogenous substances of the body, and to an increase in disintegration of proteids. It might explain why castrated men become stout, why the stout show a weakened virile power, and why in the climacteric age decrease in the bodily weight usually advances parallelly with increase in deposition of fat.

(2) As is well known, diabetes mellitus is characterised by increased disintegration of proteids, excessive formation of sugar, and defective oxidation of the latter. If so, a hypodermic administration of the emulsion will probably prove a useful remedy for the disease, since the injection can control disintegration of proteids and prevent accumulation of sugar (partly by inhibiting its formation, partly through promoting its oxidation). [*Cf.* Roshtchinin's paper in the LONDON MEDICAL RECORDER, June, 1890, p. 209, and May, 1891, p. 165.]

(3) Impairment or loss of functions of the testicles might induce a tendency to the development of diabetes, since such condition is accompanied by a lowered oxidation of carbo-hydrates and an exaggerated disintegration of proteids.

(4) The testicular emulsion must also prove beneficial in cases of fatty degeneration of various organs.

MALARIA PARASITES IN BIRDS.*

DANILEWSKY found in the blood of birds in Russia parasites, which he tried to identify with those of malaria. He could, however, not properly classify them, and he could not watch their reproduction. Our first endeavour was to lay hold of easily procurable birds, and which will be kept alive easily. In *Sicily*, the same birds that Danilewsky employed were not adapted, but the Passer Hispaniolensis and the house-pigeon were very appropriate. In these we found two forms—(*a*) a form very much alike to the *Moon-crescents;* (*b*) one analogous to the *Hæmamœba*, which, like it, multiplies endogenously. This form (*b*) resembles the one that we hold to be different in man from the Hæmamœba, of *tertian* and *quartan* fevers, as it multiplies early and causes *quotidian* and sub-continuous fever. We found in birds a condition of things very similar to what *Marchiafava* and *Celli* had found in Rome. In a few words we found the following:—(1) Many birds have *crescents* in different stages of development, which belong to the genus *Laverania* (nobis), and which we shall call *Laverania Danilewsky;* bilaterally symmetrical, but thicker ends and pigment differently distributed. (2) A few birds contain *hæmamœba*. (3) Very few have both kinds, but we have never seen a bird that contained the latter only. (4) When the *hæmamœba* are numerous they are being reproduced endogenously. (5) The *crescents* when quite developed become round, and are provided with *cilia*, as Danilewsky observed, in Malaria. (6) In *sparrows*, there are *crescents* of homogenous appear-

*BY PROFS. B. GRASSI AND R. FELETTI (Catania). From the *Centralblatt für Bacteriologie.*

ance. (7) The crescents before they contain dark granules have the appearance that gave them their name *moon-crescents*. (8) The *crescents* and *hæmamœba* are absent from the blood of birds that come from non-malarious regions. We can add that the malaria parasites of birds have a *nucleus* as those of men, and this proves that it is not a degeneration of the blood corpuscle as in birds, the nucleus remains normal, the parasite growing in the proto-plasma of the corpuscle. We have convinced ourselves that two kinds of parasites exist in birds. (1) *Hæmamœba præcox* (because of its early reproduction). (2) *Laverania Danilewsky*. The reasons we have to admit these two forms are the following:—(1) In the month of February, and in the first half of March, were the birds infected with malaria, not more than twenty per cent. of those examined, and towards the end of April *all* the birds were found to be affected, and the same in May and June. Now if the *hæmamœba* should precede the *crescents*, then the former ought to have been frequently found, whereas it was quite exceptional. (2) The sparrows breed in May and June, and in neither the eggs nor the young ones that had not left the nests did we find parasites; the young ones became infected as soon as they left the nests to move about in malarious places, and then the disease always began with the *crescents* and not the *hæmamœba*. (3) These birds continue for months to show often *crescents* only. (4) That the fully developed *crescents* become converted into *hæmamœba* is unlikely in the extreme—(*a*) because the *crescents* grow from one side of the corpuscle, and gradually encroach both poles, whilst the *hæmamœba* remain connected with one pole; (*b*) because the *hæmamœba* divides itself when still a great part of the red corpuscle remains unaffected, whereas in its full development the *crescents* only leave the *nucleus* free from encroachment. (5) The possibility of *dimorphism* is also impossible, because the *laverania* are symmetrical, the others not. Another strong argument is that both forms can co-exist for months in the same bird. Finally, the reproduction of the *crescents* in the body of birds has been shown. We had some sparrows under observation, which had only numerous fully developed *crescents*, but which eight days later showed numberless crescents, of very small size (young), then after a few days again middle-sized ones were seen, then only fully grown up, to be succeeded ten days later on by another generation of young ones. We worked for a long time in vain, trying to find out how the crescents were multiplied, but, unfortunately, only unsatisfactory results. We doubted in the reproduction by *Gemmulæ* (Celli and Guarnieri), and presumed it must be by fission. At last we found in the spleen, the liver, and marrow of bone forms that we took to be crescents in segmentation. In the fevers occurring in Rome in *summer* and *autumn* (Marchiafava and Celli), there are two parasites, one which cannot be distinguished from our *Hæmamœba Præcox*, whilst the other is our *Laverania Malariæ*. When one reflects that the crescents of men too are not encapsuled, and remembers the experiment carried out by Prof. de Mattei on one of us, which consisted in injecting from a malaria patient who had for a long time been infected with *crescents* only, and the appearance of quartan fever as a consequence, it is right to infer that there are two varieties, the Hæmamœba and the Laverania. Three kinds of Hæmamœba:—(1) *Hæmamœba Præcox* (quotidian fever, attacks getting nearer each other). (2) *Hæmamœba Vivax* (giving rise to the simple or double tertian fever). (3) *Hæmamœba Malariæ* (the simple, double or treble quartan). The *Laverania* produces irregular fever, which often takes for a few days the continuous, sub-continuous, quotidian and tertian type. There is an *amœba* of very frequent occurrence in malarious regious, which easily becomes encysted. In this state it can be raised in the air, and we found it in the nostrils of pigeons which we had hung up in cages (2 mètres high), in malarious places. These birds were found to be infested with Laverania nine days later. *Maurel* found the same in men, but he did not inspect the connection. Our *amœba* could well account for the malaria, and explain the fact why it should not occur 3 or 4 mètres above the ground, the amæba being so large that they would naturally gravitate. Prof. B. Grassi undertook a careful search in a malarious place in Lombardy, *Triulzi*. Taking it for granted that if the malaria parasites were really *Rhizopoda*, they ought to be easily found in nature, being much bigger than the other micro-organisms, and systematic search was organised. All that we have said above, both of animals and men, tended to show that they must be *Rhizopoda* I examined. (1) Uncultivated moist clayish soil. (2) Artificially laid out meadows. (3) Natural meadows. (4) Rice fields. (5) Fields cultivated with cereals, but always damp. (6) Hemp and flax undergoing maceration. (7) The vicinity of sewers. I bore in mind that *rice-fields*, when the water is removed from them, are very dangerous; the *mud* of canals surrounding meadows is also poisonous (malaria). Marshes in the summer months when they begin to dry are also very dangerous. The first thing found was that malaria could exist without *Algœ* of the various kinds. I came to the conclusion that in the *Amœbæ* (sensu lato), we must see the originators of malaria. I am inclined to lay stress on the *Amœba Guttula*, as it was described by *Perty*. Also the *Dactylosphœrium*. So that the cycle of malaria parasites would be as follows:—Certain amœbæ which are free in nature once they get into the bodies of birds or men, thrive whilst they take other characters (Dimorphism). This is well known of the *Anguillula Intestinalis*. It is exceedingly probable that to each of the malaria parasites a special Amœba would correspond. The *Amœba guttula* would be the *hæmamœba*, the *Amœba Radiosa* (Dactylosphærium) the *Laverania*. These *amœbæ*, since they thrive on the red blood corpuscles, get so accustomed to good things that they die outside the body, and this is why they have not been amenable to cultivation outside the body. Also it explains the small contagiousness of malaria. The question naturally arises as to whether *Malaria* can be acquired through the digestive organs. To solve this problem, I made men (living in non-malarious districts), drink 30 to 50 grammes of dew, from malarious places, and the experiment gave negative results. Also birds of prey, subject to infection when fed with infected birds, did not get tainted. In men, *Laverania* infection heals spontaneously in the spring. It is worthy of note that we in *Catania*, from April to September, could not find a single case of *Laverania*. In the bird, *Passer Hispaniolensis*, one meets the Laverania from February, onwards. About the middle of November they had disappeared altogether. *Laverania* heals spontaneously after at most six or seven months. Of a relapse we cannot as yet say anything. Dr. Calandruccio, on the advice of Prof. Grassi, made the following experiment:—From the blood of an individual infected with Quartana (simple and trifle), he drew by means of an sterilized syringe, about a gramme of blood, and injected into his subcutaneous tissue; seventeen days later he developed

quartana, which quinine soon cured. This experiment is further interesting, because the patient from whom the blood was taken had been in turn injected from another patient; also the fact that *quartana* remains *quartana*, produced, no doubt, by one special kind of parasite, not a mere variety.

THERAPEUTIC EFFECTS OF POEHL'S SPERMIN.*

Dr. Roshtchinin, of St. Petersburg, details his experience of Poehl's spermin, which he used (always hypodermically) in a great number of cases, belonging to the following four categories :—

I. *Nervous Affections.*—The author adduces three illustrative cases, one of which is that of a highly neurasthenic and anæmic student, aged twenty-four, who had been suffering from anorexia, gastro-intestinal catarrh, depression of spirits, extreme drowsiness, headache, alopecia, acne, prostration, lassitude, disinclination and inability to mental or any work, etc., the symptoms being of three years' duration and steadily growing from bad to worse (notwithstanding the treatment by arsenic and such-like means). The spermin injections being resorted to, a striking amelioration rapidly set in. Anæmia decreased, the appetite improved, the digestive functions became normal, the general subjective state excellent, alopecia ceased, headaches, acne, and drowsiness disappeared, the patient regaining his ability to assiduously work without growing easily fatigued, and so on. As we learn from the gentleman's diary, in the beginning the injections caused a "peculiar sensation in the head, somewhat resembling compression, and sometimes headache"; occasionally they were followed by erections, which occurred both during the day and night time, "the night ones being accompanied by seminal emissions without any erotic dreams." Another case refers to a retired lieutenant-general suffering from left hemiplegia with fixed contractions of paralysed fingers, considerable somnolence, vesical catarrh, and incessant "calls" to micturition. After fifteen injections of spermin (repeated every third day) the digital contraction decreased (a passive extension of the fingers becoming painless), drowsiness disappeared, the "calls" grew less frequent, there appeared some voluntary movements of the paralysed limbs, and the patient became able to walk about his room with a stick. The third patient was a coachman's wife, aged twenty-nine, who since 1885 had been suffering from chronic lumbar myelitis with paraplegia, greatly lowered reflexes, etc., the treatment by electricity and suspension having remained of no avail. Early in December, 1890, the spermin injections (three times weekly) were commenced, with the result that about the end of the month she was able to walk from her home to the author's lodgings, leaning on a stick.

II. *Diabetes mellitus.*—Two typical instances are given, one of them referring to a gentleman whose case has been already briefly alluded to in the London Medical Recorder, June, 1890, p. 209. Early in 1890, he had been treated with Brown-Séquard's testicular emulsion, all the symptoms having gradually disappeared. About the autumn of 1890, however, he began to experience general weakness, lassitude, and drowsiness, his urine being found to contain traces of sugar. After a spermin course, sugar quite disappeared, thirst subsided, the appetite and sleep returned, and, in short, all functions became normal, the patient enjoying now excellent health. In the other patient, a man of sixty-five, with somnolence, prostration, unsteady gait, and 47 per 1000 of sugar in the urine, the injections speedily reduced the proportion down to 2 per 1000, and relieved all other symptoms.

III. *Pulmonary tuberculosis.*—In all of the author's cases spermin markedly improved the patient's subjective state and increased general strength and bodily weight. Sometimes cough was also alleviated. (*Cft.* Dr. Uspensky's paper on the subject in the London Medical Recorder, January, 1891, p. 19.)

IV. *Collapse.*—Two cases are described, one of which is that of a man, suffering from severe enteric fever and croupous pneumonia with extreme prostration, very weak accelerated pulse, and other indications of a threatening cardiac paralysis. To prevent the latter, spermin was injected. The pulse rapidly grew stronger and fuller, and the general state strikingly improved, the patient making a good recovery. Another man was seized with incessant and incoercible vomiting of eight days' duration, accompanied by excruciating abdominal pains. When seen by the author, on the ninth day, the patient was apparently dying, his pulse being hardly perceptible and collapse seemingly certain. Spermin was immediately injected, and choroform administered. In a few minutes the pulse and general condition improved, the pain subsiding. The after-treatment consisted in the injection of spermin every other day, and in feeding by enemata. In about a fortnight the patient got up, feeling well.

On the ground of such observations, and on a "mass" of other cases of a similar nature, Dr. Roshtchinan arrives at the conclusion that (1) "a brilliant future can be safely expected for spermin"; (2) the remedy is "not only endowed with ordinary stimulant or analytic properties, but also possesses a remarkable power of strengthening energy and vital capacity of cerebro-spinal nerve elements, as well as of increasing the systemic vital energy in general, of promoting the systemic metabolism, and of regulating the cardiac and nerve action"; (3) spermin, however, does not represent anything like a "specific" remedy either for diabetes or tuberculosis,—its beneficial effects in these diseases should be attributed simply to its general biological properties just mentioned; (4) the latter are "almost identical" with those of Brown-Séquard's testicular emulsion. Spermin, however, offers the advantage over the emulsion in its being administered comparatively more easily and more conveniently.

[As regards the alleged power of "promoting the systemic metabolism," Prof. V. A. Manasseïn (*ibid.*) very appropriately points out that as yet there do not exist any experimental researches on that head.—*Rep.*

* By Dr. Fedor A. Roshtchinin. (*Vratch*, No. 10, 1891, p. 282.)

EXAMINATION OF THE URINE FOR LIFE INSURANCE.*

At the present day an examination of the urine is made, as a matter of routine, in the case of all applicants for life assurance. The various points in this connection which the examiner has to consider are dealt with in an interesting manner by Dr. Charles Purdy.

The most important preliminary in examination of the urine, and one that a due regard to the interests

* A Lecture by Dr. Charles Purdy. (*New York Medical Journal*, Feb. 28, 1891.)

of the Company should always demand, is to have the specimen of urine submitted to examination, voided in the pursuance of the examiner. The next preliminary relates to the time of day the urine is voided. In all cases where it is practicable, it should be so arranged that the sample to be examined be voided about three hours after a meal of mixed food. It is a popular fallacy that urine voided in rising in the morning is the most suitable for analysis. It is, however, of all urines the least likely to contain albumen or sugar.

The following is a summary of the rules which Dr. Purdy lays down with regard to the acceptance or rejection of applicants:—

(1) If albumen is present in the urine, and the applicant is over forty years of age, decline the application.

(2) If albumen and renal casts are found, decline the application, regardless of age.

(3) If albumen is found in the urine in large amounts—two or more grammes to the litre—decline the application.

(4) If the applicant is of middle age or over, and has always been a generous eater, especially of meat; and if he rises regularly at night to void considerable quantities of clear urine of low specific gravity; and if, in addition, there is decided tension of the pulse with accentuation of the second sound of the heart, decline the application, even though the urine is free from albumen.

(5) If the urine is of normal specific gravity (1020), or above, but contains albumen at times, while at other times it contains none, especially on rising in the morning; and if no casts are present, and the applicant is under thirty years of age, and in good health, the albuminuria is, doubtless, of the so-called functional form, and the application may be accepted for a ten-years' endowment policy. As yet, however, such risks are not regarded as altogether safe by most Offices.

(6) If the applicant is subject to fits of gravel, one of which is recent, the applicant should be declined; but if five years have elapsed since the last attack, the urine remaining clear, and no pain being present, in the kidney region, the application may be accepted.

(7) If the applicant is over fifty years, and voids his urine with more or less slowness and difficulty at times, the stream being small, forked, or dropping, and if he rises regularly at night to void urine, and is subject to periodical attacks of frequent urination, the application should be declined, even though the urine itself is in every respect normal.

(8) If sugar be found in the urine, the application should be declined. It is true that most authors recognize a so-called harmless form of glycosuria, as well as severer grades of diabetes, but it is also true that one form may pass into the other at any period of its course.

(9) If the urine is turbid from admixture with pus in blood, the application should be declined.

ON THE INDICATIONS FOR INTUBATION IN DIPHTHERIA OF THE LARYNX.*

INTUBATION of the larynx may be said to have taken a permanent place as a well-established operation for the relief of diptheritic croup. All its advocates, however, agree that it cannot wholly supplant tracheotomy. It is rather maintained that intubation and tracheotomy will in the future supplement one another, either operation being employed according to circumstances. The literature of intubation, however, contains very few attempts to settle exactly when the indications are for one or the other operation. Recently Prof. Escherich has attempted to supply this omission, and from a study of published cases, principally of those derived from German sources, he endeavours to establish the indications for intubation, in preference to tracheotomy, in diphtheria of the larynx.

The following are the conclusions at which the Professor arrives, from a careful study of the subject:—

(1) The value of intubation cannot be guaged by composing the percentage of recoveries, which is obtained by the exclusive use of tracheotomy and on intubation. Each operation should be selected according to the nature of the case, and as the disease progresses, the one operation should, if necessary, be substituted for the other.

(2) The advantages of intubation are that it can be rapidly and easily performed; that an anæsthetic is not required; that there is no wound; and finally that the after-treatment is more easily carried out, and of shorter duration. The disadvantages are the danger of ulceration from pressure of the tube; the difficulty of swallowing fluids; the troublesome cough, which is occasionally present, and especially the difficulty of expectorating secretion and membrane, from the trachea and bronchi, as well as a relatively insufficient supply of air to the lungs, as compared with tracheotomy.

(3) For these reasons, if the lungs and bronchial tubes are complicated, or, if owing to the rapid spread of the disease in the larynx, a speedy spread of the process downwards is to be expected, tracheotomy is to be selected rather than intubation. In young infants also, owing to their weak expiratory powers, tracheotomy is to be preferred. Further, tracheotomy is preferable in septic cases, in cases of diphtheria secondary to other diseases, especially when the strength of the patient is weakened by the previous diseases.

(4) The cases most suitable for intubation are cases of primary diphtheria, limited to the ptarynx and larynx, where the strength of the patient is well maintained, and there is no indication of septic poisoning.

(5) Secondary tracheotomy is indicated in those cases where the intubation-tube cannot be dispensed with after five days, and in those where there is great difficulty in giving nourishment. It is also indicated immediately there are signs of a spread of the disease to the bronchial tubes, or of the occurrence of pneumonic infiltration.

(6) Moreover intubation may be had recourse to as a temporary measure when the facilities for performing tracheotomy are not at hand, and it may also be employed as a means of procuring euthanasia, in cases when there is no hope of saving life by any operation whatsoever.

* By PROF. ESCHERICH, of Graz. (*Wiener klin. Wochens.* Feb. 12, 1891.)

THE LATE MR. JOHN MARSHALL.—A movement has been started to raise a fund with the object of establishing a memorial to the late Mr. John Marshall in the form of a bust to be placed in University College. Should the amount subscribed allow of it, a prize fund will also be instituted, to be called the "Marshall" prize.

Selected Papers.

Anatomy and Physiology.

A THEORY OF THE PLACENTA.

By C. S. Minot. (*Anatomischer Anzeiger*, 1891, 125.)

The author holds the placenta to be an organ of the chorion; that primitively the chorion had its own circulation, and formed the discoidal placenta by developing villi which grew down into the degenerating uterine mucosa; by the degeneration of the maternal tissues the maternal blood is brought nearer to the villi, and the degeneration may go so far that all the tissue of the uterus between the villi disappears; a layer of the mucosa is preserved between the ends of the villi and the muscularis uteri to form the so-called decidua; the placenta receives its fœtal blood by the means of large vessels running in the mesoderm of the allantois. From this discoidal chorionic placenta, the zonary placenta of carnivora, the diffuse placenta of the lower primates, and the metadiscoidal placenta of man have been evolved. A second type of placenta, perhaps evolved from the first, is found in ungulates and is characterised by a vascular allantoic vesicle uniting with a now vascular chorion to form the fœtal placenta, and by the absence of degeneration in the maternal tissue. This type is the allantoic placenta which offers many interesting modifications.

ON THE VEINS OF THE CAPSULA ADIPOSA RENUM.

By MM. Tuffier and Lejars. (*Arch. de Physiol.* 1891, p. 41.)

The venous system of the capsula adiposa is formed by trunks with transverse branches of communication, which pass anteriorly by two or three channels into the renal vein or the reno-azygo-lumbar vessels, or, finally, into the veins of the ureter, and posteriorly into the retro-pelvic plexus, which is formed by the superior termination of the veins of the ureter. The authors describe five groups of anastomoses:—(1) Capsulo-renal, which unites them with the veins of the kidney, either by centripetal vessels or by the centripetal vessels or by the centrifugal vessels of Steinach. (2) Capsulo-mesaraic, or porto-renal anastomoses, which running between the layers of the meso-colon, reach the right and left colic veins. (3) Capsulo-supra-renal, passing outwards into the peri-renal venous arch, which communicates with the inferior phrenics and terminates in the supra-renal vein. (4) Capsulo-spermatic, joining the inferior part of the peri-renal arch which unites it with the veins of the ureters and ends in the spermatic veins. (5) Capsulo-lumbar, which passes across the quadratus lumborum, and are connected with the subcutaneous veins. The veins of this group anastomose also with the veins of the abdominal and genital nerves. A fact which the authors hold explains the frequency of occurrence of neuralgic pains in conjunction with peri-renal congestion, pains which cannot always be explained by pressure. It may also be noted that the capsular system of veins is another connecting link, besides those already described, between the portal and systemic groups of veins. It is also an alternative passage for the return of the blood in cases of obstruction of the renal veins or inferior vena cava.

RESEARCHES ON THE INFLUENCE OF WINES ON PEPTIC DIGESTION.

By L. Hugounenq. (*Lyon Médical*, March 1, 1891.)

From experiments with a large number of artificial digestions to which had been added wines of various descriptions, Dr. Hugounenq arrives at the following conclusions:—(1) All wines without exception impair the action of pepsin; those richest in alcohol, cream of tartar, and colouring matter are the most harmful. (2) It is the cream of tartar, colouring matter, and alcohol, in a natural wine, which slow or arrest peptic digestion. (3) The acidity of normal wines does not provoke the action of pepsin. (4) Of colouring matters fraudulently introduced into wines, methylene blue, azoplasine, solid blue, and especially fuchsine, interfere with peptic digestion. (5) Vegetable colouring matters, as mauve-black, elder, etc., have also a hurtful action. (6) "Plastering," by removing one hurtful element (cream of tartar), diminishes to this extent the harmful action, though it is by no means to be assumed that this process is a desirable one on other accounts. The author in conclusion wishes it to be understood that these results obtained in the laboratory would probably correspond far more nearly to those which would take place in the stomach of a dyspeptic (atonic, lacking peristaltic movements) than in those of healthy digestion.

RARE ABNORMALITIES OF THE BONES OF THE SKULL.

By R. Staderini, *Atti della R. Acc. dei Fisiocritici di Siena*, 1889; (*Anthropologie*, 1891, p. 70.)

(1) Complete absence of the nasal bones, which were replaced by apophyses springing from the superior maxillæ; these apophyses did not unite above, but left an interval of 4mm. which was filled up by a small prolongation of the nasal spine of the frontal and by a minute process from the perpendicular plate of the ethmoid. This anomaly has only been observed four times (Meckel, Kohler, Sandafort and Henle). (2) Reduction of one of the nasal bones (left side) in its inferior portion (scarcely measuring 15mm). The superior part of the space thus left open was occupied by a process springing from the superior maxilla, which was thus in contact with the normal nasal bone of the right side. This anomaly has only been twice observed (Henle and Romiti). The author explains these two cases by a pest of development. (3) Metopic or medio-frontal fontanelle. The existence of this fontanelle has been denied by Pozzi, but the author has been able to observe the skull of an infant, aged one year, which presented a foramen at the situation of this fontanelle (ossification had taken place so as to form a small opening similar to the parietal foramen between the middle and inferior thirds of the suture). Besides, the skull of a fœtus presented this fee anomaly in a clearly marked manner, the fontanelle being quite distinct from the bregmatic fontanelle.

THE MASTOID REGION OF THE SKULL.

By Prof. Birmingham. (*Dub. Journ. of Med.* Feb. 1891.)

The practical conclusions drawn by the author from

his careful examination of this region in a number of skulls are as follows :—(1) The lateral sinus varies to an extreme degree in position and shape. The surface markings given for mapping out its course are occasionally as much as an inch astray, and this at a point where there is danger of wounding the sinus in the operation of trephining for abscess, &c., of the temporo-sphenoidal lobe of the brain. (2) The following is the average condition of the sinus :—Beginning near the occipital protuberance, it ascends gradually, running forwards and upwards in close relation to the superior curved line for a short distance ; leaving the curved line, it continues to arch upwards until it reaches a height of nearly three-fourths of an inch above Reid's base line; soon after it has reached this level the sinus bends gradually or sharply and runs downwards and forwards on the mastoid portion ot the temporal immediately in front of a ridge which prolongs the posterior margin of the mastoid process upwards and backwatds, and in front of the posterior margin ot the process itself. Here it lies about half-an-inch behind the meatus; having reached the level of about one-fourth or one-sixth of an inch below the floor of the meatus, it turns into the base of the skull. The bend ot the sinus, where it begins to arch downwards, is most commonly at a point 1½ inches behind and three-fourths of an inch above the centre of the bony meatus. (3) As a guide for avoiding the sinus in opearations upon the cerebrum or cerebellum, the following method of mapping out the limits within which it may wander is suggested :—One line should be drawn convex upwards from a point half an inch above the occipital protuberance to a point 1½ inches behind and one 1¼ inches above the centre of the meatus, another line from half-an-inch below the occipital protuberance to the base line 1½ inches behind the meatus. Between these two lines the sinus will be found ; above or below the space included between them the operation of trephining may be practised with safety. (4) The author has also tried to arrive at some point at which the sinus may always be sought for whith success, as this is required in the operation for septic thrombosis of the sinus. Although it varies so much in its course generally, at one spot it is pretty constant in its relation to the middle of the meatus. If the pin of a three-quarter inch trephine be placed at a point 1½ inches behind the centre of the bony meatus, and on the level of its upper border, he believes that it will expose the sinus in every case. (5) The site proposed by Barker for trephining in temporo-sphenoidal abscess, viz :—1¼ inches behind and above the centre of the meatus, occasionally brings the trephine down on the upper part of the bend of the lateral sinus. The author has come to the conclusion that the safest site for trephining over the temporo-sphenoidal lobe of the brain is such that the pin of the trephine shall be at a point 1¼ behind and 1⅝, or, better still, 2 inches above the centre of the bony meatus. (6) In trephining over the cerebellum he recommends that the pin of the trephine should be placed one inch below Reid's base line and two inches behind the centre of the meatus. This differs from the site proposed by Barker, 1½ inches behind the centre of the meatus and one inch below the base line. The author has found skulls in which the occipital artery would be wounded by a three-quarter inch trephine placed as directed by Barker. (7) In all cases great care should be taken in boring the skull behind the ear, on account of the dangerous variations in the position of the lateral sinus ; it is ocasionally as little as one-twelfth of an inch from the surface ; in other cases it comes within three-sixteenths less than a quarter of an inch of the back of the meatus. (8) With reference to tapping the antrum, the author has come to the conclusion that the mastoid antrum may be opened in every case, without wounding the sinus and without opening the cranial cavity, if a one-quarter inch drill be used, and sent inwards (without inclination backwards or forwards, upwards or downwards) at such a point that the hole it makes shall lie as near as possible to the back of the bony meatus, and its upper border not more than one-twelfth of an inch above the level of a line prolonged backwards from the superior margin of the meatus. The instrument should not be drawn in more than three-quarters of an inch at most ; if it be sent further than this distance there will be a danger indeed in a certain proportion of cases, almost a certainty of wounding the most external part of the labryinth, viz., the external semicircular canal, which is in some cases not more than 17 mm. from the surface. The antrum will usually be reached at a depth of three-fifths of an inch. In about ninety-eight per cent. of cases a one-third inch drill might be used, and in a large proportion even a half-inch instrument ; but since it is impossible to tell from the exterior the dangerous cases, the one-fourth inch size should be used to secure safety in every case. The aperture may subsequently be enlarged with care if this be thought necessary. (9) The attempt to open the antrum and the cranial cavity by one perforation, as proposed by Wheeler, will not always succeed. For if the trephine be placed in front of a vertical line passing throgh the most prominent part of the mastoid process, with its lower margin, on the level of the upper border of the meatus, it will be found that the roof of the antrum is occasionally so low that (as a consequence of the low level of the petrous portion of the temporal bone) that the trephine opening lines above the level of the antrum. From his experience the author cannot recommend this method as a reliable means of reaching the antrum. If a three-quarter or half inch trephine be used, there must be great danger of wounding the lateral sinus, unless it be applied entirely above the level of the antrum. Under all circumstances, he thinks, a trephine, unless it be exceedingly small, is an objectionable instrument for tapping the antrum. (10) Finally he suggests a simple rule for avoiding the lateral sinus in this region, viz., that all deep perforations made here should be in front of a vertical line drawn one-quarter inch behind the posterior margin of the meatus ; and that they should be made with the greatest care. The author states that he has specially avoided giving any guides or surface marks except bony points on the skull itself, about which there can be no doubt or uncertainty. The soft parts, such as the various divisions of the ear, &c., are too movable and too variable ; they should never be adopted as reliable guides in such a critical corner with such important relations. He believes that in tapping the antrum the posterior and upper margin of the bony meatus ought always to be freely exposed, and all bearings taken with the greatest care from the meatus. The directions given above can be easily followed if the margins of the meatus be thus exposed. He points out that the lateral sinus runs down on the mastoid roughly about opposite the line of reflection of the skin from the pinna, though there is sometimes an idea existent that the sinus lies a considerable distance behind this line

Surgery.

SULZER ON THE SURGICAL TREATMENT OF FLOATING KIDNEY.

By Dr. Max Sulzer. (*Deutsche Zeit. für Chirurgie*, Bd. 31, Hf. 5 and 6.)

The following conclusions are given at the end of a long paper by Dr. Max Sulzer, of Bâle, on Wandering Kidney and its treatment by nephrorraphy:— (1) In every case in which a moveable kidney gives rise to well-marked symptoms, an attempt should be made in the first place to remove, or at least to alleviate the patient's troubles, by the application of bandages. (2) When such palliative treatment has failed, or cannot be tolerated, nephrorraphy becomes justifiable. (3) The kidney should be approached by a lumbar incision. The plan of operation which affords the best prospect of a lasting result is that in which after division of the capsule of adipose tissue, the proper capsule of the kidney is incised and dropped back for a little way on either side, so as to expose the cortical substance at the bottom of the wound. The edges of the partially detached flaps of proper capsule are then fixed by sutures to the lips of the external wound, and the kidney is retained in its natural place until cicatrisation has been established, by means of two deep sutures passed through the parenchyma of the organ. The deep wound in the lumbar region is allowed to heal by granulation. This necessitates the confinement of the patient to bed for at least six weeks after the operation. (4) In all cases of wandering kidney, in which an imperfect operation has been performed and failed, recourse to a subsequent operation by a better method is recommended. (5) An attempt to fix the moveable organ by an intra-peritoneal operation should be made only in cases of difficulty in diagnosis, as, for instance, when it is doubtful whether the swelling be a wandering kidney or an intra-abdominal tumour. Nephrorraphy is inadmissible when the wandering kidney has contracted adhesions with other abdominal organs, or when it has become the seat of suppuration or new growth. (7) Extirpation of a wandering kidney of sound and normal structure is justifiable only in cases which frequently repeated nephrorraphy has failed, or when, although fixation has been attained as a result of the operation, there is still no alleviation of those symptoms which can with certainty be attributed to the affected renal organ.

THE CONDITION OF THE HEART DURING OPERATIONS.

(*Glasgow Medical Journal*, p. 323.)

Iginio Tansini, as the result of numerous experiments, concludes that the use of the trephine affects the heart's action less than that of the chisel. On uninjured skulls the chisel has least influence when the instrument is small, and is held at an angle of 30° with the surface of the bone. Extra-dural tamponade has a much more marked bad effect upon the heart's action than pressure applied directly to the brain-substance. Washing out the lateral ventricle has no marked bad effect so long as care is taken to let the fluid escape freely. Opening either pleural cavity has a very marked effect, causing at first irregularity, and then weakening of the force of the action of the heart. Continued washing out the pleura with cold (11° C.) water, or hot (38° C.) has a very bad effect upon cardiac action, slowing it markedly, it may even be fatally. The chemical constitution of the fluid does not seem to make any difference. With regard to abdominal operations, the experiments show that continued irritation of the nerves in either healthy or inflamed peritoneum slows the action of the heart, and may even arrest it fatally.

PERINEAL *V.* SUPRA-PUBIC CYSTOTOMY.

By H. O. Walker, M.D. (Detroit). (*Med. Times and Reg.*, March 7, 1891.)

This paper is designed to show the superiority of the perineal over the supra-pubic operation of opening the bladder. The writer records five cases in which he has operated on the perineum for bladder trouble. He contends that for the following reasons the perineal operation is better than the supra-pubic:— (1) Because it is adapted to operation. (2) Because it is simpler. (3) Because it is more rapid in its results. (4) Because it is more adapted to more cases than that of supra-pubic cystotomy. Since 1883. the mortality in about four hundred recorded cases of the latter operation averaged thirty per cent., whereas the perineal method in many thousand cases gives only about six or seven per cent. mortality.

THE OPERATIVE TREATMENT OF OLD UNREDUCED DISLOCATIONS OF THE SHOULDER.

By Mr. Thorburn. (*The Medical Chronicle*, April, 1891.)

In a recently published paper Mr. Thorburn, of the Manchester Royal Infirmary, holds that in spite of the favourable results that have been reported of the application of Kocher's methods in the reduction of old dislocations of the shoulder, there is no small danger in attempting forcible reduction in such cases, and that serious or fatal injury to the axillary vessels or the brachial plexus is probably more common than published reports would lead us to suppose. There must remain, it is pointed out, a considerable number of cases in which no manipulation, and no justifiable exertion of force, will suffice to reduce the dislocation. Although much may be done in such cases by passive movement and massage, the result at the best is far from satisfactory. In considering the question as to what line of treatment ought to be followed in a case of old dislocation of the shoulder, in which an attempt at reduction by the use of a justifiable amount of force has failed, Mr. Thorburn holds that in most cases the choice would be between arthrotomy and arthrectomy. The former operation, in which the joint is incised and exposed, and all structures which prevent reduction are freely divided, though successfully practised by Sir Joseph Lister and other surgeons, has proved insufficient in several instances to permit of reduction. Arthrectomy on excision of the head of the humerus, on the other hand, although it has not been frequently performed until lately, appears to yield very favourable results. Reference is made to ten published cases in which this operation was performud, and a full report is given of an original case in which the head of the humerus was removed by Mr. Thorburn with very good results for the relief of deformity and uselessness of the upper limb, due to unreduced dislocation of the shoulder,

together with fracture of the neck of the humerus. Mr. Thorburn's views on the subject of unreduced dislocations of the head of the humerus are summed up in the following conclusions:—(1) Forcible reduction of an old luxation is a dangerous proceeding, and should not be too vigorously attempted; (2) should reduction fail, we may operate to obtain relief, the chief indications being pressure on the axillary structures, or great fixity of the limb, the only contra-indications being old age or other constitutional debility; (3) the best operation is that of arthrotomy followed, if unsuccessful, by arthrectomy; (4) sufficiently free incisions will usually permit of reduction after arthrotomy; but (5) comminuted fracture and certain other conditions may necessitate arthrectomy, which will probably give a satisfactory result.

ON EMPYEMA.

By Drs. Holmes Bayard. (*The Journal, Chicago*, April 4, 1891.)

In the course of a post-graduate lecture Dr. Holmes observed that there can be no progressive suppuration without the presence of pyogenic bacteria. It follows from the anatomy of the pleura that, except in penetrating wounds, all infection must be secondary. The most likely method of infection is by the invasion of micro-organisms from infected air-cells or bronchioles. The normal physiological resistance of the peritoneum to infection is great, and in Dr. Holmes' opinion is due to evolution as from constant exposure to the intestines. The pleural surfaces are further removed from infection, and therefore have not evolved the same amount of resistance. The pericardium is still more remote, and still less tolerant. In pleural suppuration the germicidal power of the blood has generally been exhausted by such parasites as the pneumococcus or other infective organisms. Marfu divides empyema into three categories. (1) Those that follow pneumonia and are characterised by the presence of the pneumo-coccus in the exudate. (2) Those that occur in the course of pyæmia and contain the staphylococcus. (3) Those that follow tuberculosis and contain the tubercle bacillus. Interference with respiration or circulation, or presence of pyogenic bacteria, or double-sided effusion indicate thorough and permanent removal. In tubercular empyema it may be said that while there is no positive contra-indication to operation, yet their drainage cannot be undertaken with any favourable prognosis. Of all the methods of removing a liquid pleuritic effusion the simplest and best is that originally proposed by Standski, namely, aspiration with a small trochar. Free incision and drainage is thus described:—"An incision is made in the axillary line and at the upper border of a rib into the centre of the effusion. The finger is passed into the incision and any information gained which the palpation affords. A rubber or other drainage tube is passed on the finger or forceps into the cavity and placed in the most advantageous position for drainage. The cavity may or may now be washed out with a warm antiseptic solution and carefully dressed. This antiseptic irrigation and dressing are to be repeated every day with the most conscientious care and scrupulous antiseptic precautions. At the end of a week or two the discharge will be found to have disappeared. Then if the method of Professors Quine and Bouvert is to be followed a still more careful antiseptic irrigation is to be employed, the tube removed entirely, and the hole in the side restopped with a plug of iodoform wool. The dressing is left on for two weeks or more, and the air or other contents left to be absorbed by the now healthy pleura. There is no reason why this should not fill all the indications of any operation, viz., first, to evacuate the pus, second, to prevent the production of more purulent matter, and, thirdly, to restore the respiratory apparatus to its normal condition. I must admit that while there is no reason to think that the pleural cavity may not thus be sterilised, our experience has been so unfortunate that until Prof. Quine reported his cases it had not been regularly practiced." The author concludes an exhaustive paper by formulating the following positive indications for operation:—"(1) Serous effusions must be removed whenever they interfere with respiration or circulation by their extent, or whenever they show a tendency to remain after recovery from the primary disease which gave rise to their presence. The aspirator may be found sufficient in these cases, but when inadequate after repeated trials, one of the more permanent and radical methods of drainage must be resorted to. (2) Pyogenic and tubercular effusions of large size or of small size must be immediately and permanently drained. (3) Drainage into a vacuum must be practised in all cases of bilateral effusion without adhesive limitation, and in those cases of unilateral effusion where the opposite lung is so incapacitated as to be inadequate for respiration. It may be practised in all cases where the expansibility of the lung is intact and the patient can have skilled attention. It will be found of the greatest value in limiting the extent of the empyemic cavity, which may be afterwards drained against the atmosphere. (4) Intercostal incision and antiseptic irrigation of the cavity to a point reaching a practically aseptic condition of the same, and permanent closure of the incision, is indicated when the expansibility of the lung is intact and the skill of the operator is sufficient. (5) Rib resection and thorough drainage should be practised in all cases of tubercular effusion, and pyogenic effusions which are not treated early, or those occurring in patients who cannot have the best of care. (6) Operation must never be delayed on account of the extreme condition of the patient, nor on account of the presence of tuberculosis in one or both lungs, nor on account of the presence of pneumonia on the same side. All of these conditions are additional indications for operations."

GASTRO-ENTEROSTOMY.

By Dr. F. B. Robinson. (*Med. News*, Mar. 14, 1891.)

In a paper on "Gastro-Enterostomy with Raw-hide and Segmented Rubber-plates," Dr. F. B. Robinson, of Ohio, argues that this operation should, as a rule, be substituted for pylorectomy in cancer of the pylorus. It has been demonstrated by *post-mortem* examinations, that in one-fourth of the cases of pyloric cancer there are secondary deposits in the liver. In such cases, it is pointed out, pylorectomy would be almost useless, while the safer and more easily performed operation of gastro-enterostomy would relieve severe suffering until the inevitable end. It is held, that even in non-malignant neoplasm, and in stenosis and occlusion of the pylorus, gastro-enterostomy has all the advantages of pylorectomy, and at the same time causes less shock to the system. During the past three years Dr. Robinson has performed many experiments on dogs, with the object of discovering

the most suitable material for the plates. He first used plates of cartilage, but soon abandoned these, as being too readily absorbable when thin, and too clumsy when thick. After having used various forms of leather he adopted raw-hide made by cutting the shaven "green" hide of an ox into strips, each an inch wide and two inches and a half long. A diamond-shaped orifice, one-half by three-fourths of an inch, was then made in the centre of each strip. The plate thus formed was armed with from four to six sutures, each suture being threaded on a round sewing-needle. Although these plates proved almost a perfect success, Dr. Robinson wished to discover a still better material than raw-hide, and to secure something cheaper, and that could be more easily prepared. After many investigations, he has found that segments of thin flat rubber and a ring of raw-hide make the best plates that have yet been tried. The segments of rubber plate, it is stated, brings into coaptation the largest amount of serous surfaces and holds them closely together. It produces uniform pressure in all directions, and there are no uneven surfaces to cause gangrene or sloughing of the gut. Dr. Robinson is convinced that a plate should not be absorbed for at least four or five days, and for this reason he abandoned cartilage, which is absorbed too quickly.

REDUCTION OF POSTERIOR DISLOCATIONS OF THE FEMUR BY MANIPULATION.

(*Glasgow Medical Journal*, p. 322.)

Catoir describes a method for reduction of the above dislocations, of the iliac or ischiatic form, successful in all cases, even those where the Y-ligament is intact, and those not of quite recent origin, without violent traction, and even without chloroform. The pelvis is fixed by the surgeon's hand grasping the anterior superior spine. His right hand grasps the patient's leg, flexes the knee, and then strongly flexes the thigh, till it touches the abdomen, which is often more easily done if the thigh is at the same time slightly adducted. Then by slight traction, with slight to-and-fro movements and slight rotatory ones, the displaced head of the femur can be pulled towards the acetabulum and finally easily pushed into place, either by the hands of an assistant or by the surgeon's knee. During the very last movement the forced flexion may be slightly relaxed. In this method, the risk of injuring neighbouring parts is *nil*, and skilled assistance is not needed.

ON THE TREATMENT OF RECURRENT APPENDICITIS.

By Charles B. Porter. (*Boston Med. and Surg. Journal*, April 2, 1891.)

The author discusses in this paper the relapsing forms of appendicitis only. Whether operation is the best course during the quiescent period of such cases is still a moot point. A year ago the author performed the operation, which has been followed by perfect recovery, and relief from disabling attacks. Another patient, aged twenty-six, had a right iliac abscess opened with recovery. In less than a year he returned with a history of very numerous attacks of pain and tenderness in the same region. He consented to the operation, the nature of which was explained to him. The appendix was found thickened and adherent to omentum, and was removed. The chief point of interest is that a year prior to the radical operation he had been operated on for abscess due to peri-appendicitis from which he recovered in the ordinary manner. Dr. Porter has collected, including his own, fifteen cases, and although, as he observes, that number is too small to draw any general conclusions, yet he makes the notable observation that the whole fifteen have made excellent recoveries. Putting on one side cases that are at all doubtful, there are many where there can be no question whatever as to the nature of the disease. In such, Dr. Porter thinks, the surgeon should be able to present the patient with something more than medical treatment, which, simply means waiting until a severe attack compels surgical interference, usually at an unfavourable period. From a careful analysis of collected cases the writer comes to the following conclusions:—(1) That operation with its attendant difficulties and possible danger should be offered first, to those in whom a condition of invalidism as produced by the frequency or severity of the attacks; second, to those who are prevented from performing the ordinary duties of life; third, to those whose surroundings are such that they cannot in time of urgent necessity command the services of an experienced surgeon. (2) That the surgeon should be sufficiently familiar with abdominal surgery to be able to meet the difficulties he may encounter. (3) That in such cases as threaten the necessity of operation, it is better to do it during a remission when those preparations of the patient, instruments and dressings can be made which are requisite to an aseptic operation. There is nothing particularly noticeable in the author's mode of operating, except, perhaps, that he treats the lumen of the appendix like the cervix uteri in a hysterectomy by the actual cautery, and then stitches a flap of omentum over the top, the stitches being placed in the form of a horseshoe with the open part towards the centre of circulation in order not to impede it.

SUCCESSFUL REMOVAL OF A RETROPERITONEAL FATTY TUMOUR.

By John Homans, M.D. (*American Journal of the Medical Sciences*, April, 1891.)

This is reported as the first successful example of a large intra-abdominal fatty tumour removed by laparotomy, and though operated on in March, 1889, publication of the case has been delayed that time might be given for testing the permanence of the cure effected. The patient was a woman aged fifty-four years, married, and the mother of five children, the youngest thirteen years old. The abdomen was uniformly enlarged to the extent of a five months' pregnancy, a round, smooth, hard, non-fluctuating tumour filling the pelvis, the diagnosis of which, however, could not with certainty be determined. Accordingly, an incision was made in the abdomen and down to the tumour, which was found to be covered by two layers of peritoneum, and enclosed within a capsule, on splitting which it was easily shelled out. Some difficulty was experienced in removing a number of small lobular tumours discovered between the spine and sacrum and peritoneum, and in cases extending into the pelvis, while a few even ran down as far as the buttock on the right side. One large vein that had been wounded had to be tied above and below the opening, and after sponging out the abdominal cavity, the incision into it was closed

without drainage. The subsequent temperature was never more than 100, and vomiting after the operation occurred on two occasions only. Eighteen months later the woman was well and strong, and able to perform all her household duties. The tumour was composed entirely of fatty tissue, and weighed about five pounds.

SURGICAL TREATMENT OF GRAVES' DISEASE.

(*Practitioner*, April, 1891, p. 287.)

Dr. Lencke, of Hamburg, records two cases of Graves' disease in which surgical treatment of goitre produced "great relief" of symptoms. The first patient was a boy of seventeen, who had the classical symptoms of the disease. He came under treatment on account of a sudden access of the swelling, which by the pressure it exerted produced great distress with extreme cyanosis. As the patient was in imminent danger, tracheotomy was performed; and seven days later one-half of the tumour was extirpated. Recovery was uninterrupted, the symptoms rapidly vanished, the exophthalmos disappearing, and the heart becoming quiet and regular in action. The second case occurred in an older patient, and was attended with similar results.

ON THE SURGERY OF CEREBRAL HÆMORRHAGE.

By Dr. Meisenbach. (*Cincinnati Lancet-Clinic*, April 11, 1891.)

In presenting the specimen of a brain, showing extensive hæmorrhage into the right lateral ventricle from rupture of the lenticulo-striate artery, the author referred to the possibilities of surgical treatment of these cases. The patient was a young man, aged thirty, who had suffered from syphilis. He went to his office one morning, having taken an aperient the night before, and was found shortly afterwards in the closet, still conscious, but paretic. Two hours later his left side was paralysed, and the pupil on that side firmly contracted and without reaction. Right pupil dilated and insensitive to light. Occasional spasmodic twitchings of limbs manifested themselves. Death ten hours later. Referring to Victor Horsley's suggestion to tie the common carotid, and to his published case, the author admitted that it was anatomically feasible to control cerebral hæmorrhage in this way. From a practical standpoint, however, he asks, "when, how, and at what time are we to operate, and how are we to select the proper moment at which to perform this operation?" Was there any time in the history of the case laid before the society that evening, at which litigation of the common carotid could have been done? Could the amount of hæmorrhage seen in that brain have been checked by timely ligature? The subject is at present surrounded with difficulties, but, no doubt, Mr. Horsley had sounded the key-note in the right direction, and in the future, doubtless, many of these cases, if taken in proper time, will be treated in that manner. In the subsequent discussion several speakers condemned ligature of the carotid in these cases, chiefly because of the difficulty of diagnosing the precise location of the hæmorrhage. Dr. Broome advocated craniectomy, with aspiration of the hæmorrhage and pressure on the carotids. Hæmorrhage is the primary factor, but the cause of death is the mechanical effusion of extravasated blood. Several other member concurred in the feasibility of operative measures.

EXTENSIVE FRACTURE OF THE SKULL WITH REMARKABLE PERSISTENCE OF LIFE.

By C. G. R. Jennings, B.A.M.D. (*The Amer. Med. Jour. Sciences*, May, 1891.)

This is an interesting record of a case of surgical interference in a most severe injury to the skull, followed by much improvement; death, however, ultimately ensuing. The patient, aged fifty-six, was struck on the head in a quarrel. Stupor followed, and on examination a contused wound of the scalp was found in the left parietal region, extending down to the skull, which was fractured and depressed. Chloroform being necessary for the performance of an operation, as the patient was still able to feel, the anæsthetic was given; it was then noticed that he had right hemiplegia. He had also right facial paralysis, and, as was ascertained subsequently, aphasia. The depressed portions of the bone were raised, the depression covering an area of three inches square. Profuse hæmorrhage was taking place from branches of the middle meningeal; this was checked by pressure with hot sponges, but only after considerable time and bleeding. The dura mater was punctured underneath the centre of the wound, but it was thought unadvisable to interfere with it. The puncture was small and clean, with, however, no evidence of brain lesion The bones having been elevated, the wounds was dressed with carbolised gauze and iodoform—leaving room for drainage—contrary to expectation the patient did well. For a few days catherisation was necessary; but after that urine was passed naturally, although there was incontinence. Constipation was at first somewhat troublesome, but, ultimately, it was relieved by cotton-oil, and the bowels gave no further trouble. The aphasia began to pass off after several days, but the patient's language was incoherent, and consisted largely of a repetition of oaths. There was only slight improvement in the facial paralysis. The appetite was good, and nourishment was fully taken. The wound was beginning to heal; no signs of meningitis nor of cerebral abscess. Thirteen days after the first operation, a second one was done of an exploratory nature. Free incisions were made so as to expose a space of four inches square over the fracture. It was then seen that the man had received a most terrible injury. The lines of fracture passed in several directions beyond the limits of the area exposed. While attempting to lift depressed bone very large plates of bone were found to be loose. The sense of touch revealed that the bones were movable over the whole area of the vertex and even beyond. The dura mater was healthy, and the tear in it had healed. The patient was a little depressed by the above procedure, but he rallied in two days, and began to do well. However, his condition remained practically the same until the thirty-seventh day after the receipt of the injury, when he died. The *post mortem* notes in reference to the skull were as follows:—The cranium was fractured over the left motor tract into thirteen or fourteen pieces, four of the lines of fracture traversing the vault of the skull towards the base. These four fissures were from six to ten inches long, one passed anteriorly to the upper margin of the orbit, and was thence reflected along the base of the anterior

fossa to the olfactory groove of the left side. The second fissure reached the middle fossa of the base of the skull on the left side, and extended to the hiatus Fallopii. A third fissure extended backward, reaching the left half of the lambdoid sutures, thence passing downward nearly to the lateral sinus. A fourth fissure or crack extended from the site of the wound, across the vertex of the skull toward the right side, and terminated first at the angle of the groove for the right lateral sinus, about ten inches from the starting point. Three inches of bone were missing from the site of the injury, having been removed at the two operations. Dura mater was lacerated at three different places under the three principal lines of fracture. The immedaite cause of death was œdema of the lungs.

TRANSPLANTATION OF THE THYROID.

(*Il Progresso Medico*, Anno iv., Num. 17.)

Dr. G. Zuccaro has made some very careful inquiries upon the results of extirpation of the thyroid gland. These were especially conducted on dogs condemned to be slaughtered at the abattoirs. Dr. Zuccaro claims to have discovered that there exists in dogs, in addition to the thyroid gland, a lobule of different substance situated in front of the thyroid, and also two other accessory lobules, of the same structure but smaller, at the posterior aspect of the gland. These, he says, correspond in structure to the *noduli embrionali* of Horsley and the *cumuli adenoidei* of Virchow. Zuccaro found that when he removed the whole thyroid along with these lobules, the animals died, but when he left the lobules, removing the thyroid itself, that the animals survived the operation. After this he proceeded to remove the remaining lobules, and the animals died under the symptoms of cachexia strumipriva.

Dr. Zuccaro gives it as the result of his vivisections that, though dogs may survive the extirpation of the thyroid, they do not survive that of the three lobules, even should a portion of the thyroid be left. Schiff, in 1844, first attempted to engraft the thyroid upon another animal of the same species, in order to resolve the question whether the function of the gland was exercised through a chemical action, or through some physiological connection with the organs. He came to the conclusion that the first of these functions was correct. Schiff had succeeded in grafting the thyroid in the peritoneal cavity of another animal. Zuccaro now tried to implant it in the sub-cutaneous tissue. He details six operations, in four of which he implanted a thyroid taken from a living dog in a site where it could be easily felt, and in two cases in which it was implanted in the peritoneal cavity. After this the thyroids were extirpated from their normal situations in the dogs' necks, in the expectation that the function of the removed organ would be discharged by the implanted glands. Of these six animals, all except two, soon died with acute symptoms of the cachexia strumipriva.

In one of the dogs which outlived the operation by three years, Dr. Zuccaro found by careful examination, that though the thyroid had been removed the lobule on which he lays so much stress still remained, and from its structure seemed able to exert its physiological activity. Of course he attributes the survival of the animal to this circumstance.

In conclusion, Dr. Zuccaro observes that the implantation of the thyroid, whether in the abdominal cavity, or in the sub-cutaneous tissues, is absolutely incapable of paralysing the effects of thyroidectomy, to which the animals succumbed, in the same way as if no preventive implantation had been effected. The reason of this is that the thyroid gland, after being fixed in its new destination, quickly becomes degenerate, and is absorbed.

CASE OF ECHINOCOCCUS OF THE BRAIN.

By Dr. Bremer. (*Cincinnati Lancet-Clinic*, April 11, 1891.)

At the St. Louis Medical Society the President showed an echinococcus cyst the size of a hen's egg removed from the brain of a child of eleven. Nine months previously she had been seized with intense headache, which lasted for several weeks. A little later a soft place was found in the skull, two and a-half inches above and a little anterior to the right external auditory meatus. At the same time a tumour made its appearance, which could be made to disappear on pressure. The tumour enlarged, the headache went, and motor disturbances ensued. There was left facial paralysis, with weakness of left arm and dragging of left foot. There was a solitary spasm of the leg, with twitching, and tremor of the left arm supervened. No vomiting; no mental symptoms. Another feature was left-sided homonymous homianopsia, "the child did not see towards the left side, but central vision was good." In making a diagnosis the tremor of the arm was taken to indicate a pressure on, or interruption of, the fibres of that part of the corona radiata connected with the arm centre. There was, therefore, a destroying lesion giving rise to constant tremor. The tumour was surmised to be an osteo-sarcoma of the right side, invading the substance of the brain, and pressing down through the corona radiata on the optic tract (optic neuritis was present). Upon operation the tumour was found to consist of a number of cysts, extending down in the substance of the brain, in the corona radiata, close to the lateral ventricle. The latter was freely exposed. The parasite did not appear to have invaded any other organs.

ON RHEUMATIC FLAT-FOOT.

(*Boston Med. and Surg. Journal*, April 9, 1891.)

The writer has specially investigated the relation of flat-foot to rheumatism in the out-patient department of the Massachusetts General Hospital. His attention had been drawn to the point by a paper of Dr. Whitman's two years ago. He concludes that anything which disables the motion or power of the foot, be it disease or injury, may be followed by temporary or permanent flattening, or by symptoms that are analogous, even though no deformity may exist. "The amount of deformity depends on the amount of deformity of the bones, and the amount of yielding of the tissues. The amount of pain is not at all dependent on the amount of deformity. The history of nearly all old cases of flat-foot is that they have been treated for months or perhaps for years, for rheumatism, with little or no relief. Very few of the cases are in any way connected with rheumatism except that, being disabled joints, they are more liable to subacute rheumatic arthritis like other crippled joints. There is, however, a class of cases in which the pri-

mary cause of the flat-foot and the accompanying flat-foot, is rheumatism."

Illustrative Cases.—J. G., car conductor, age thirty, previous good health. Eighteen months ago had an attack of acute poly-articular rheumatism, which lasted six months. On getting about his feet began to be painful, and ultimately became rigid and greatly deformed. The displacement of the tarsal and meta-tarsal bones was corrected under ether, and foot-plates were made. Patient has improved considerably since operation. Another case is that of a shoemaker, age thirty-five, who fourteen years ago had an attack of acute rheumatism which "settled in his feet." They got well, but another attack seven years back ended in permanent deformity of feet. Treatment with plates and side-splints has afforded marked relief.

The point to which especial attention is drawn is the importance of the correct use of the feet after rheumatic attacks, and the avoidance of such deformities. The feet should not be used while they are painful. If disability occur without deformity (as frequently happens), much relief may often be obtained by the use of foot-plates. Massage and appropriate medical treatment are also indicated. The foot-plates are thus made:—"I cut a piece of cloth (preferably cotton-flannel) to the shape of the sole; then, having covered it rather thinly with plaster-of-Paris, I lay it on the foot and hold it in position for five minutes or so, while the plaster is hardening. Of this plaster mould a cast can be taken later on, and the cast and the mould sent to the instrument maker.

STRANGULATED HERNIÆ.

By M. Dayot fils. (*Arch. Gén. de Méd.*, 1891, p. 326.)

(1) Large umbilical herniæ may be treated by kelotomy and by the radical cure like other herniæ. The last operation rapidly closes the abdominal cavity which is then safe from the intrusion of discharges from the wound, should any exist.

(2) The accidents of large herniæ or pseudo-strangulations of Malgaigne, attributed to peritonitis, the obstruction of authors, are due to a hernial or extra-abdominal intestinal occlusion which must be met by operative procedures. This form of occlusion, which may disappear and present repeated remissions before definite stoppage takes place, appears to suggest to the surgeon abstention from operation and a policy of expectancy. This is, however, a practice much to be objected to since it leaves time for serious anatomical modifications to take place in the hernia, which impede future operative measures should such become necessary.

(3) Should it be necessary to form an artificial anus, it should be made in a healthy part of the intestine, after the affected portion has been resected. If resection appears to be useless or inopportune, constrictions must nevertheless be freely removed, so that the state of the viscera may be seen, and all the strangulated loop should be taken out of the abdomen. The intestine should be fixed by numerous threads placed close to one another, which should be fixed at its upper and lower ends above and below the furrows limiting the portion which has been squeezed; the abdominal cavity should be closed, so that the affected loop is completely separated.

(4) An artificial anus ought only to be made as a last resource. Mixed enterectomy and enterorrhaphy (a fistula for safety being maintained) of Bouilly should be adopted whenever the condition of the patient warrants an interference of somewhat lengthy duration. When a gangrenous strangulated hernia is found and the patient has no general nor abdominal symptoms (absence of abdominal distension and fæcal vomiting), and that everything has taken place locally in the hernial tumour, it is probable that the strangulation occupies a high part of the alimentary canal. When this is the case, the conditions are eminently favourable for enterectomy and enterorraphy.

(5) It is necessary to have good assistance, and to be well supplied with instruments to undertake enterectomy and enterorraphy; if such conditions are impossible, it is better to make an artificial anus. Bouilly's method seems to be the easiest and quickest of all.

(6) General accidents which are observed in strangulated herniæ are most often due to intestinal septicæmia. It is most advantageous in a patient in whom healthy intestine has been reduced, to cause the passage of alvine evacuations rather than to prevent them, since thus the imprisoned fæcal matter is got rid of. In a patient with gangrenous intestine one of the parts of the operation should be to empty the intestine, whatever may be the operation which is performed, artificial anus or enterorrhaphy.

(7) In rare cases of suspected hernia it is better perhaps to form an artificial anus or to practice mixed enterectomy and enterorraphy, seeking in the condition of the patient for indications for the one or the other of these procedures. Taxis is a dangerous weapon, unfortunately, left in the reach of all hands. This procedure, which has the merit or rather the defect of not being bloody, may tempt the more timid and is often attempted in the most inopportune and inconsiderate manner. The author believes that it is absolutely necessary to restrict the use of taxis, the limits of its employment being at present too extended. This kind of treatment is not justifiable in perhaps the greater number of cases of femoral hernia. Opium, and above all injections of morphia, purgatives, an ice-bag placed on the hernial tumour, &c., are methods which should be entirely rejected. They deceive the patient and the surgeon by masking the gravity of the condition, and cause precious time to be lost whilst permitting lesions to continue their progressive course.

EXTERNAL URETHROTOMY.

By F. A. Southam, F.R.C.S. (*The Medical Chronicle*, April, 1891.)

In cases of impermeable stricture of the urethra, complicated by perineal sinuses, the relief afforded by the performance of Cocks' operation is strongly urged by Mr. Southam; but he adds to this the advice to divide the stricture itself at the same time that the section is made. This proceeding secures a double end at a single sitting, and is attended by much better results than follow on the method of dividing the stricture some time after the operation on the post-strictural urethra. Three cases are described in which the operation was successfully carried out, but in the first two attempts were persisted in for some time with a view to dilating the stricture after the urethra had been cut. In one of these, at the end of two months, the stricture was still impervious in spite of all efforts to dilate with bougies. Under anæsthesia, therefore,

a staff was passed down the urethra as far as the stricture in the bulbo-membranous part of the canal, the perineal opening enlarged in a direction forwards, and the stricture divided by cutting down upon the end of the staff. A full-sized catheter was next introduced, without much difficulty, into the bladder, and being changed at intervals of three or four days, was removed at the end of a fortnight. A month later, a sound having been passed daily in the meantime, the urine was discharged in a full stream *per vias naturales*. Her stricture was divided after eight days' trial of dilation by catheters, the instrument then introduced into the bladder being removed five days later, and Lister's sound subsequently passed daily. Complete healing took place in a few weeks. The third case was one in which suprapubic aspiration had been resorted to for relief of retention, was followed by Cocks' operation, with immediate division of the stricture. A full-sized catheter was then introduced into the bladder by the urethra, and the bladder washed out twice daily with boric acid lotion. The catheter was changed on the second, and left out altogether on the third day; and subsequently an instrument was passed daily, the bladder washed out, and boric acid given internally in ten-grain doses T. T. D. All the urine was passed by the normal channel after the third day, and its reaction was natural at the end of a week. The perineal wound healed by first intention.

RESECTION OF DISLOCATED HUMERI.

By W. Thorburn, B.S., F.R.C.S. (*The Medical Chronicle*, April, 1891.)

Old unreduced dislocations of the shoulder, occurring in vigorous individuals, and which are rebellious to portable manipulations, have been treated in a certain number of instances by cutting down on and resecting the head of the humerus. Mr. Thorburn describes one such, in which he was himself the operator, and in which a useful limb was obtained. He considers that satisfactory results may be anticipated from this method in the future, in appropriate cases.

EXCISION OF THE ELBOW; ULTIMATE RESULTS.

By C L. Scudder, M.D. (*Boston Medical and Surgical Journal*, April 16, 1891.)

This is an important series of results of excision of the elbow-joint in the Massachusetts General Hospital. They were ninety-five cases in all, performed for the various conditions of ankylosis, of caries, and of compound fracture between the years 1822 and 1887. Table I. gives the results of four cases excised for ankylosis. After six years one is "very useful," two "fair" at end of three and of five years; the last being "very useful" after eleven months. Table II. records four cases operated on after severe compound fracture. One, age forty-eight, died of septicæmia. After six months one is "very useful," another "fairly" so; and the fourth "very useful" at end of six years. Table III. gives eight cases where caries existed. One died of general tuberculosis. One is "useful" at end of year; four "very useful" from four to nine years after date; two "fairly" so at one and at eight years respectively. Of the latter the author says: "I know of no other report dealing with end results in such detail since antiseptic methods have been adopted. Each of these eight cases was over eleven years of age. Four were men, four women. The length of time which has elapsed since complete excision has been one year in two cases, and in the remaining four three, seven, eight, and nine years respectively. In every instance a useful joint with motion exists." In the rest of the tables the end results could not be traced. Table IV. gives fourteen cases of complete excision for caries with one death. Table V. records fifteen cases where operation was done for compound fractures. There were three deaths. One, a male of three, died fourteen days after operation; another, aged twenty-two, died next day; while the third, a female, age fifty-three, died of septicæmia after four weeks. A male, age sixty-two, on the other hand, recovered. Table VI. shows two operations for ankylosis with recovery. Table VII. reports the resection after gunshot wound in a male of twenty-three years one week after accident. Death took place in six weeks from septicæmia. Tables I., II., and III. have been previously published: Hodges ("Excision of Joints," 1861); Beach (*Boston Medical and Surgical Journal*, Jan. 4, 1877); and Culbertson, who, in the prize essay of the American Medical Association for 1876, has collected all cases from all nations up to that date.

ON THE OPERATIVE TREATMENT OF TUBERCULAR DISEASE OF THE KIDNEY.

By Prof. Madelung. (*Archiv. für Clinische*, Bd. 41, Heft. 2.)

In a report of a paper read at the last meeting of the German Surgical Society, Professor Madelung, of Rostock, advocates the view now held by many German surgeons in opposition to those held by the late Professor von Volkmann and by Fischer of Breslau, that surgical interference, if made at a proper time and in suitable cases, is likely to prove beneficial in the treatment of renal phthisis. This change of view in favour of surgical treatment in such cases is attributed on the one hand to enlarged experience and greater confidence in operations on the kidney, and on the other to an increased knowledge concerning the pathology of tuberculosis of this organ. Reference is made to the great difficulty so frequently experienced in diagnosing tubercular disease of the kidney. One cannot, it is held, positively assert the presence of this affection unless the urine contains characteristic elements of tuberculosis, the wall of the bladder at the same time being known to be free from tubercular ulceration. Bacilli may sometimes be readily found in the urine, but in many cases of advanced tubercular disease of one or both kineys those organisms may be altogether absent. Moreover, it is, as a rule, very difficult in tuberculosis of any portion of the urinary tract to determine whether the mucous membrane of the bladder be affected or not. Here cystoscopy can do but little, if any, service, as the urine is so often turbid through the presence of pus or blood. Then again there may be a doubt as to whether one organ or both are diseased, and, if only one organ is known to be involved, as to whether this be the right or the left. In many cases of unilateral disease the side of the affected kidney can be easily determined by evident enlargement of the affected organ, and by tenderness and spontaneous radiating pains in the corresponding loin. The diseased kidney, however, may be smaller to the sound organ, and Madelung refers to a case in which the seat of

pain does not correspond with that of the diseased kidney.

Even when both kidneys are exposed by exploratory laparotomy, there may be some difficulty in making out which is the diseased one. No confidence is placed in Simon's method of uretal catheterization. This, it is held, is a very different procedure, and not always free from risk. It is suggested that in any case of supposed tuberculosis of the kidney, in which a certain diagnosis as to which may be the affected organ is urgently needed, supra-pubic cystotomy might be performed. Then, if the patient were put in Tresidenlenberg's position, the introduction of a catheter along each of the ureters might be effected without difficulty. Operative treatment of tuberculosis of the kidney is indicated, according to the author, in those cases only in which it is presumable that the disease has advanced to such an extent as to render any prospects of spontaneous cure quite hopeless. The object of such treatment is to remove all the product of tubercular degeneration which cannot possibly be eliminated in any other way, and thus to relieve the patient of the source of very serious and threatening disturbance. In Madelung's opinion the presence of tubercular disease in any other organ need not invariably forbid direct operative treatment of renal phthisis. The surgeon should of course assure himself that the other kidney is healthy. It is held to be quite useless to operate in any case in which the renal disease is associated with advanced tubercular ulceration of the bladder, as the chief troubles of the patient, such as vesical tenderness and pain and difficulty in micturition, would still persist. The only satisfactory operation in cases of tuberculosis ot the kidney is, Madelung believes, total extirpation of the diseased organ. Nephrectomy can only alleviate troublesome symptoms for a time, and is not free from risk. Although, in the many recorded cases of nephrectomy for tubercular disease of the kidney, mention is rarely made of complete and permanent relief, yet this operation, it is asserted, will often succeed in relieving much pain and disturbance, and in prolonging life, when other methods are sure to prove useless. The author refers to three cases of his own in which the results of the extirpation of the kidney for tubercular disease were very satisfactory, although the patients were very weak at the time of the operation, and one was almost in a moribund condition. Allusion is made also to seven cases in which Bardenhauer performed nephrectomy for renal phthisis. All these patients recovered, and two of the survivors remained quite well after an interval of three years from the date of operation.

HEPATIC SURGERY.

By M. Terrillon. (*Revue de Chirurgie*, No. 3, 1891.)

The following cases in which operations had been performed on the gall-bladder, or the liver itself, were reported by M. Terrillon to the *Société de Chirurgie de Paris*, on January 19 :—

(1) The patient was a woman, aged twenty-three, who presented, when first seen, all the characteristic symptoms of distension of the gall-bladder. On the performance of cholecystotomy two calculi were found, one quite loose in the bladder and another so tightly impacted in the cystic duct that it could not be moved until after it had been crushed. The walls of the gall-bladder were adherent to the surrounding structures. The edges of the incision in the gall-bladder were fixed to the lips of the external wound. The fistula closed spontaneously after an interval of two months and a half. The patient made a good recovery.

(2) A woman, aged twenty-eight, came under notice with symptoms of an acute peritonitis localized in the region of the liver, and a large intra-abdominal fluctuating tumour above the umbilicus. An exploratory puncture gave out to 700 grammes of bile-stained fluid. The peritoneal cavity was opened and cholecystotomy performed. No gall-stone could be found, but the inner surface of the coats of the gall-bladder was coated with calcareous salts. The outer surface of the bladder was found to be adherent to the parts around. The calcareous matter was scraped away and a fistula established. This persisted for six months. Ultimately the patient made a good recovery.

(3) The subject of this case was a woman, aged fifty, who had noticed for the first time a swelling in the hepatic region nine years before she came under the care of M. Terrillon with jaundice and vomiting. Cholecystotomy was practised, and two hundred small gall-stones removed from the gall-bladder, which was very adherent to other structures on all sides. After an interval of seven months, the patient was in good health, but the fistula still remained open.

(4) A woman, whose age is not given, was admitted with a large fluctuating swelling in the region of the gall-bladder. This was first punctured, and afterwards exposed by laparotomy. The gall-bladder, which was found much distended, was then opened, and relieved of three pints of turbid yellow fluid. No gall-stone could be found, nor any other obstacle to the flow of bile. The patient made a good and complete recovery.

(5) A woman, aged forty-two, who had been jaundiced for five months, came under notice with a tumour over the liver. Cholecystotomy was performed, but without success, as the patient very soon died from exhaustion.

(6) A woman, aged forty-three, who had suffered frequently from attacks of hepatic colic, came under the care of M. Terrillon with well-marked symptoms of distended gall-bladder. In this case also cholecystotomy was performed. The bladder, which was not bound down to surrounding structures by any inflammatory adhesions, contained 200 grammes of bile-stained fluid, and at its neck was found a small gall-stone. The bladder was then removed, and the neck was secured by a ligature. This patient made a good recovery.

(7) This was a case of traumatic hepatic abscess. The patient was a man, aged twenty-six, who had in a duel received a sword-thrust in the right hypochondrium. This injury was followed after an interval of twenty-one days by repeated rigors, and by pain over the liver and jaundice. The liver was exposed by laparotomy, and five punctures made in order to make out the situation of a supposed hepatic abscess. No pus was withdrawn. The patient was relieved for a time, but subsequently suffered much from rigors and fever, and died from exhaustion on the thirty-fifth day following the injury. At autopsy an abscess was found in the liver, which had been just missed by the exploratory trocar.

(8) The subject of this case, a man aged fifty-eight, had a large hepatic tumour, which was diagnosed as an hydatid cyst. By an exploratory puncture exit was given to seventy grammes of thick fluid, which appeared to be a mixture of blood and bile. On exposure

of the liver, this organ was found to be enlarged, smooth on the surface, and of a very dark colour. No relief followed this operation, the liver increased in size, and the patient soon after died. The case on *post-mortem* examination, was found to have been one of cancerous growth, compressing the vessels at the pilum of the liver.

Medicine.

THE EARLY DIAGNOSIS AND THE PRINCIPAL MODES OF COMMENCEMENT OF PULMONARY TUBERCULOSIS.

By Dr. Henri Huchard. (*Rev. Gén. de Clin. et de Thérapeutique*, March 18, 1891.)

Much is said of the curative treatment of tuberculosis, and bitter, up to the present, have been the disappointments resulting from the introduction and uniform failure of so-called "Cures." It has, however, come to be recognised that the early diagnosis of a commencing tuberculosis is so much a condition of success that one can formulate the following proposition:—

A tuberculosis, recognised or suspected from its commencement, is curable; a tuberculosis not recognised till the appearance of bacilli in the sputum, is almost always incurable. In other words, an early diagnosis is an essential for a successful therapeutics.

The onset of this disease is often especially difficult to recognise,—so many cases commence in an ambiguous manner; but if skill be acquired in recognising these doubtful forms, without doubt active measures will often prevent further mischief. As to the discovery of bacilli in the sputum, this is not an early sign; it does not occur until there has been ulceration of a tuberculous centre into a bronchus. Their absence does not signify the absence of tuberculosis, for in acute phthisis, are there not few or no bacilli in the sputum? Auscultation must still be relied on as our chief means of diagnosis, the search for bacilli being only confirmatory.

To diagnose a commencing phthisis, one must be on the alert to appreciate even the smallest sign. The following cases will show the importance of this:—

Case I.—A chlorotic girl, weak, and subject to febrile attacks. She had been losing flesh, and auscultation of the heart and vessels revealed no souffle. This led to a suspicion of phthisis, on inquiry it was found that her parents had died of phthisis, a closer examination was nearly negative. Only, under the left clavicle, could a slight roughness of respiratory sounds be detected. A month later, a hæmoptysis confirmed the diagnosis of phthisis.

Case II.—A young girl with intercostal neuralgia, which had long resisted treatment. Further inquiry then elicited that her mother died of phthisis, a brother of "cerebral congestion," and a sister of bronchopneumonia. Closer examination then showed that the patient had lost flesh, coughed sometimes, had occasional feverish attacks. There were also signs of phthisis at the right apex. This girl finally died of the disease.

Thus, then, a chlorosis, without a cardiac or vascular murmur, or an obstinate neuralgia, apparently causeless, may lead one to suspect early tuberculosis.

A third illustration is the case of a man with an obstinate dyspepsia, which had lasted a year. There were all the signs of dilated stomach, which might have accounted for the wasting observed, but close examination revealed unequivocal signs of early lung-mischief, and the dyspepsia was the effect of this, and not the primary disease.

Hereditary predisposition is well known; direct descent of a tuberculous child from phthisical parents is only too common. But there is also an *indirect* predisposition; thus the child of gouty or rheumatic patients is often tuberculous. It has been said that it is not phthisis which is inherited, but an increased receptivity. There is, however, much evidence to show that a child may become infected even *in utero*, and thus be born with the disease well developed.

Innate predisposition is not less important. Such is illustrated by the following type: "Skin white, and soft veins distinct, iris blue, hair red or reddish, sweats easily provoked, combined with elegance of form. From a large experience the author concludes that all such are especially liable to tuberculosis."

As to *acquired predisposition*, Landouzy thought that an attack of variola prepared the soil for phthisis. Few, however, would be inclined to make a generalization of this.

Passing now to the *tubercular constitution;* this may be evidenced by an arrest of development, called by some "infantilism." In such cases one is never surprised to find a developing tuberculosis. Numerous phthisical patients appear children when adolescents, or quite young when men.

Others, again, have pointed out a relation between an approach to the "feminine type" in man and susceptibility to phthisis. Excessive growth also seems to have some relation to proneness to acquire the disease. It is unnecessary to do more than mention the vicious conformations of the thorax which render individuals particularly liable to phthisis.

FRONTAL ABSCESS FOLLOWING INFLUENZA.

By R. T. Williamson, M.D. (*Medical Chronicle*, March, 1891.)

The patient, a french polisher, nineteen years old, had shown signs of commencing phthisis for about three months when, in February, 1890, he was attacked with influenza attended by profuse nasal discharge and intense frontal and occipital headache. His last illness extended over a period of nearly four weeks, and was characterised by much mental slowness, tremulous nervous movements of the hands, and pain in the head. Paralysis was absent, but the limb movements were unsteady, and knee jerk and ankle clonus were both absent. Optic neuritis was well marked on the right side, the left eye being normal in this respect. The temperature gradually rose from 99° to 106° F., and more on the day of death. *Post-mortem:* The brain was found much congested, and in the right anterior frontal lobe was a large abscess, containing about three ounces of thick creamy pus. Its walls were firm and smooth; the rest of the brain was merely congested. A small quantity of pus was, however, discovered in the upper ethmoidal sinus, on the right side, the left being quite free. Taking into consideration the whole history of the case, the influenza, attacking a person whose health was failing, appears to have given rise to suppuration in the right ethmoidal sinuses, and this appears to have been the cause of the abscess in the right frontal lobe. The limitation of the optic neuritis to the right side, the peculiar mental condition, and the absence of knee jerks are points of interest in the case.

THE ETIOLOGY OF ACUTE BRIGHT'S DISEASE.

Dr. Jul. Manaberg contributes a paper to the *Zeitschft für klin. Med.* (Vol. XVIII., No. 3 and 4) upon the above subject, and he draws the following conclusion from his investigations:—

(1) In eleven cases of acute Bright's disease very numerous streptococci were found in the urine, which disappeared at the end of the disease.

(2) In no other disease have these organisms been observed in the urine, or yet in the urine of the healthy.

(3) The streptococcus possesses cultural properties which differ essentially from that of the hitherto known streptococci.

(4) An intense nephritis is produced in dogs and rabbits when the organism is infected into the blood stream, and in rabbits there is endocarditis as well.

(5) The cocci do not multiply in the kidneys themselves, and injure those organs by their mere passage.

(6) The author accepts these streptococci as the cause of the case of Bright's disease he has investigated.

(7) The bacterial case of Bright's disease disappears quickly and mostly terminate favourably.

PURPURA TRANSMITTED TO THE FŒTUS.

By MM. Hanot and Luzet.

(*Lyon Méd.*, 1891, p. 208.)

The patient in this case, a female aged 22 years, was admitted to hospital in a comatous condition, suffering from acute cerebro-spinal meningitis. She presented a discrete purpuric eruption on the legs, thighs, abdomen, and buttocks. A few hours after her reception she expelled a fœtus at full term, dead and partly macerated. She died on the fourth day, and the autopsy proved the existence of a cerebro-spinal meningitis. An examination of the cerebro-spinal fluid proved the presence of streptococci, which were also discovered in several of the organs. No purpuric patches were visible on the exterior of the fœtus, but numerous such were found in the visceral peritoneum and in the thymus. Cultivations of the blood gave a positive result.

ATROPISM IN ENURESIS.

By Charles Kerley, M.D. (*Archives of Pediatrics*, April, 1891.)

This paper is a brief account of a trial with atropia in twelve cases of chronic enuresis in the New York Infant Asylum. Nine boys and three girls were treated, all in fair health, and presenting no cause for the trouble. They had been previously treated in various ways without success. A solution of one grain of sulphate of atropia to an ounce of distilled water was ordered, and of this one drop was given for every year of age of the patient, at 4 and 7 p.m.

Physiological symptoms were produced in three, but were slight and of no importance. After six weeks of treatment slight improvement was noticed in four. At the end of the third month these four wet the bed but once or twice a week. Seven were practically well at the end of the fifth month, rarely wetting. The treatment was, however, continued as before for two months longer. The dose was then reduced to one-half; this was given two months longer, and then stopped. There has been no relapse now, nine months after the trouble.

The remaining five cases, which include the girls, showed but slight improvement. At the end of the fifth month of treatment, wetting the bed every night. During the next three months the improvement was gradual, and at the end of the fifth month of treatment they only wet the bed about twice a week. During the tenth month they only wet occasionally. The dose was reduced one-half, and after one year of continuous treatment there was no wetting. The atropia was then stopped, and now, after six months, there has been no relapse. Thus eighteen months ago there were twelve chronic bed-wetters in the asylum, now they are all well.

HEADACHES AND OTHER RESULTS OF OCULAR STRAIN.

By Henry Eales. (*The Birmingham Med. Rev.* February, 1891.)

The occasion of this subject having been chosen by Mr. Eales for a paper was the Middlemore Lecture for last year, a lecture founded by a philanthropic old gentleman now in his eighty-seventh year. Mr. Eales dealt with his subject under two heads, namely, functional strain and distress in eyes whose focus was normal, and certain defects in the focal conditions of the eye, which of themselves had to strain and distress of its functions. His conviction is "that headaches due to ocular causes, however general and diffused they may become after they have once set in, invariably commence in one or both eyes themselves, or more commonly over one or both eyebrows, or the forehead, or over one or both temples, or over the root of the nose, and that I believe the great majority of such headaches are caused by ocular conditions, especially if they are constantly recurring, and are aggravated by the use of the eyes in reading or other kinds of close work." The author then proceeds to give a popular account of lenses and their physical properties, and discusses subsequently the artificial lights and their disadvantages. These lights, he says, are if analysed as to their component rays are all found to be too rich in red and green rays, especially the red, and are, therefore, more or less of an orange or yellow hue. The influence of artificial light in causing discomfort to many people is notorious; the dryness and irritation of the conjunctiva set up by the heat of the lights in question being such as to produce considerable inconvenience. Of course experience has shown that the best light of all those which are artificial, is the electric light in the well-known incandescent globes. The great drawback, on the other hand, to gas and oil petroleum lamps is that although the illumination is good, too much heat is evolved. The fats and rich oils as colza are in this respect better, but they do not give so much light. Where electric light is unattainable, the next best form of artificial light is a good colza oil lamp, on account of the little heat evolved. Persons who suffer from ocular distress in working by artificial light will find this highly advantageous. The author affirms that probably about eight or ten hours a day, not continuous, is the maximum that the effort of accommodation can be maintained in the normal eye in a healthy person—without discomfort. Attempts to exceed this are liable to cause trouble (1) from distress and failure of

the effort which is called asthenopia; (2) from spasms being set up in the muscles concerned.

TREATMENT OF MALIGNANT TUMOURS BY PYOKTANINE.

(*Jour. Soc. Sci.*, Paris, 1891, p. 49; *Rev. Int. de Bibl. Med.*, March, 1891, p. 73.)

Von Mosetig has been for some years engaged in researches on the use of pyoktanine (methyl violet) in the treatment of malignant tumours in which operation is impossible. In support of his assertions, von Mosetig cites a certain number of clinical facts and has shown two patients whom he has treated, which prove that injections of pyoktanine produce a considerable amelioration in cases of inoperable malignant tumours; the results not excluding the possibility of a complete cure. He has been able to convince himself that the injection of a solution of pyoktanine into the tumours produces a shrivelling of the neoplastic mass. Reuss considers that the pyoktanine treatment causes considerable benefit in cases of malignant tumours. Lans has used injections of the substance in blennorrhagia, cystitis, and pyelitis. He has shown that the new medicament is well borne in large doses without any inconvenience. The urine quickly takes the colour of the substance—a proof that it impregnates the mucous membranes with which it comes in contact. Billroth recalls the methods of treatment which he has pursued during several years in cases of inoperable tumours. He has injected the tumours with nitrate of silver, with preparations of gold, chromic acid, carbolic acid, osmic acid, oxygenated water, gastric juice, &c., but all without any result. But this is not a sufficient reason to doubt that some day a remedy will be found capable of causing the disappearance of malignant neoplasmata, and from this point of view Billroth considers the communication of von Mosetig as of considerable interest. Neudorfer has used pyoktanine for nearly a year in the dressing of wounds. He has tried lotions made of pyoktanine in the treatment of inoperable cancers. In a woman sixty years of age, suffering from a cancer of the breast, he tried successfully lotions of pyoktanine, and then applications of a mixture of talc and of solid pyoktanine. Under the treatment of topical application the tumour has decreased in size.

INFLUENCE OF TOBACCO ON DIGESTION.

By J. Ydan-Pouchkine. (*Vratch*, No. 48, 1890; *Bull. gén. thérap.* 1891, p. 140; *Rev. Int. de Bibl. Med.* March, 1891.)

The author made his experiments on seven healthy persons, who were not in the habit of smoking. He examined the effect of tobacco on the gastric juice, on the mobility of the stomach, on its power of absorption, and on the acidity of the urine. During three days the author first examined the gastric juice by the usual methods, the movement of the stomach by salol, after the method of Ewald, and the absorptive power with iodide of potassium after the method of Zweifel. During a second period of three days each of these seven persons smoked twenty-five cigarettes per diem. During three days after this second period the author continued his observations with a view of observing the later effects of tobacco. His conclusions are as follows:—

(1) Tobacco augments the quantity of gastric juice, but diminishes its acidity.

(2) The quantity of free hydrochloric acid met with in the gastric juice is diminished under the influence of tobacco.

(3) As the quantity of hydrochloric acid diminishes, the digestive power of the gastric juice diminishes also.

(4) Tobacco also retards the action of the ferment of the gastric juice.

(5) The modifications of the gastric juice produced by tobacco last during a certain time.

(6) As regards the movement of the stomach and its power of absorption, both are increased by the influence of tobacco.

(7) Tobacco has no influence on the acidity of the urine.

A TRAUMATIC PSYCHOSIS.

(*Giornale Inter. delle Scientze Mediche*, Anno xii., Fasc. 11.)

The contributions given by surgeons to the physiology and pathology of the brain might be much more important if they took the trouble to give a careful analysis of the nervous and mental symptoms following injuries to the head. In this respect the paper of Dr. Lorenzo Mandalari is much to be praised. The case reported by him was that of a fisherman suddenly struck down by a blow on the head from an oar used by a comrade. He fell down stunned, and was borne to the hospital at Messina. He was found to have a lacerated wound in the left parietal region, and a contusion with ecchymosis of the right orbit. This was followed by large suppuration in the left temporal fossa, and it was thought necessary to make an incision in the anterior portion of the said region. From the conjunctival ecchymosis of the right eye Prof. Trombetta suspected fracture of the base of the skull. The man apparently recovered his health in twenty-five days, but it was found that his mental vigour was permanently weakened. It was ascertained by careful enquiry that the patient had no previous neurotic affections or mental deficiency. Sensibility was found not to be affected, and all the senses were normal, but there was a slowness in the process of perception ascertained by very careful examination. The patient had a feeling of weight in the head, especially about the frontal region, which was affected more or less by atmospheric changes. Sometimes he had subjective sounds in the ear. There were no illusions or hallucinations. The ideas were retarded, the process of thought went on more slowly than usual, and the mental attention was difficult to rouse. The memory failed especially in the recollection of proper names. There was a marked tendency to melancholy, and the patient had a vacant and scared look, but otherwise there was no mental derangement nor special nervous incapacity. The author treats this as a case of cerebral neurasthenia owing to irritation from the wound and consequent paralysis of the vaso-motor centres. It had lasted five months. Dr. Mandalari is uncertain about the prognosis, but it may be opined that recovery is not improbable in this case.

The Great Northern Central Hospital of London has received the sum of five hundred pounds from the executors of the late Miss J. G. Harrison, being a share of the bequest left by her for charitable purposes.

Pharmacology and Therapeutics.

THE INFLUENCE OF TOBACCO ON DIGESTION.

(*Boston Medical Journal*, p. 298.)

YDAN-POUCHKINE made a series of careful experiments on seven persons in good health, but who were not accustomed to tobacco, and found that tobacco increases the quantity of the gastric juice but diminishes its acidity. The amount of free hydrochloric acid is decreased, and consequently the digestive power of the gastric juice. Its peptonizing power is also diminished. These effects last for a certain length of time. On the other hand the movements of the stomach, and its power of absorbing are increased. Tobacco has no effect on the acidity of the urine.

TREATMENT OF AN ATTACK OF STRIDULOUS LARYNGITIS.

BY DR. H. GILLET. (*Rev. Gén. de Clin. et de Thérap.* March 18, 1891.)

THE indications for treatment are these:—(1) To diminish the inflammatory swelling of the mucous membrane; (2) to get rid of the secretions; (3) to combat the nervous element.

For the inflammatory swelling we may employ (*a*) a sponge wrung out of hot water to the throat, and hot compresses wrapped round the whole of the neck. (*b*) Mustard leaves; mustard poultices to the chest, on the thighs and soles of the feet. Mustard baths.

To eliminate the secretions: tickle the back of the pharynx with a finger or feather; should that fail administer emetics, such as ipecacuanha (℞ Pulv. ipecacuanha gr. viij., syr. ipec. ʒi.) or sulphate of copper (℞ Cup. sulph. gr. 2 to 8, syrup. ʒii., aqua ʒi.), to be given in doses of ʒi. every five or ten minutes, till vomiting is produced. If it be impossible to give anything by the mouth, apomorphine may be employed hypodermically. The mucous will be also loosened by (1) keeping the air of the room warm and moist by evaporating large quantities of water in open vessels, and adding a few drops of terebene. (2) By fumigations, and sprays applied either directly in front of, or in the mouth of the child, using either plain water or elder-flower water.

To combat the spasms, use anti-spasmodics, as in whooping-cough, for example:—℞ Pulv. ipecac. co. gr. iij., Mucil. acaciæ. q.s., Aq. laurocerasi ♏ i.—for three doses, to be given every hour. When the child cannot swallow, an enema may be given with good effect, consisting of chloral hydrate gr. viii., infus. valerianæ ʒiss., repeating it if necessary; or else a suppository containing bromide of potassium (gr. viii. in cocoa butter). A very rapid action may be obtained by spraying the epiglottis with a solution of cocaine with bromide of potassium, or by giving hypodermic injections of morphine or antipyrine. In case of absolute urgency we must resort either to the careful administration of chloroform, or to tracheotomy or intubation of the larynx.

PRESCRIBING OF NARCOTICS.

BY MR. DAVID WALSH, L.R.C.S. & P.Ed. (*Birmingham Medical Review*, May, 1891.)

IN a paper read before the Queen's Medical Society, at Birmingham, the writer pointed out that alcohol presented a familiar example of the progressive stages of narcotic poisoning. Acute alcoholism exhibits a definite series of effects, including stimulation, sensory and motor paralysis, hypnotic action and coma. Indeed, no better examples could be kept in the mind's eye of the results of acute and of chronic narcotic poisoning than those afforded by the abuse of alcohol. As regards opium there can be no question that of late years it has fallen into comparative disuse. The explanation may be sought for under three headings. (1) *The complex composition of opium*, the potency of which depends chiefly on morphia. (2) *Drugs of modern introduction used as substitutes.* The specific therapeutic actions of opium are one and all capable of being replaced by those of other remedies. For instance, stimulation by caffeine, analgesia by gelsemium or by carbolic acid, and sleep by the bromides and chloral. (3) *Increased knowledge of the causation of disease and of pain as a symptom.* Modern surgery, by preventing septic inflammations, has enormously lessened the amount of pain in surgical conditions. Now the surgeon invades every cavity of the body in search of sources of irritation, where formerly he could only palliate its results by deadening the nerve centres by the use of narcotics. Most modern authorities condemn the use of opium in abdominal surgery. The use of narcotics in modern medicine has become to a great extent merely palliative, in such cases as the passage of biliary or renal calculi, intractable neuralgia, or the late stages of cancer. In acute cases one is always tempted to relieve pain by any means immediately at hand, and it must be confessed that there is no one remedy of such general efficiency as opium. To narcotise the nerve-centres, however, and to leave the source of the trouble untouched is an illogical and unscientific proceeding. The rest of the paper dealt with the danger of patient's contracting the habit of taking opium or other narcotics from the prescriptions of the medical attendant, who thus incurs a grave responsibility. The conclusions are that the growing disuse of narcotics by medical men may be traced (1) to a more extended knowledge of existing drugs, together with the discovery of new ones, and (2) to a better understanding of the causes and conditions of disease. Great caution is needed on the part of the physician lest his prescriptions lead to the formation of disastrous habits amongst his patients. Lastly, more stringent restrictions should be passed on the public sale of narcotic drugs and medicines.

SEDATIVE TREATMENT OF HÆMORRHOIDS.

(*Med. News*, p. 305.)

KASSOBUDSKI for internal hæmorrhoids recommends the following:—

Chrysarobin	15 grains;
Iodoform	5 „
Extract of Belladonna ...	8 „
Cacao Butter	6 drachms.

Of this are made ten suppositories, and one suppository ought to be inserted into the rectum each day. For external hæmorrhoids, a solution of corrosive sublimate, of the strength of 1 to 1000, or of carbolic acid, 1 to 50, may be used as a wash, and after this the following salve may be applied:—

Iodoform	5 grains;
Extract of Belladonna ...	8 „
Vaseline	1 ounce.

RETINOL AS A SOLVENT.

(*The Therapeutic Gazette*, March 18, 1891.)

Dr. Vigier, at a meeting of the *Société de Médecin Pratique*, presented a number of preparations in which phosphorus, salol, and creasote were dissolved in retinol. Retinol being unoxidizable, is admirably suited as a vehicle for the solution of phosphorus, and such a solution remains unchanged indefinitely. So, also, a fragment of phosphorus, if ignited and then plunged into retinol, is instantly extinguished. Dr. Vigier recommends the use of the solution of phosphorus in retinol in cases of scrofula, anæmia, chlorosis, muscular paralysis, and locomotor ataxia.

AN EARLY ATAXIC SIGN.

(*The Therapeutic Gazette*, p. 216.)

Dr. Weiss, of Vienna, says that even in cases in which the patient may be able to walk forward with firmness and rapidity, the earliest sign of locomotor ataxy is an inability to walk backward. Perron has recently suggested another early diagnostic sign, which is simply a modification of the Romberg test, —namely, causing the suspected ataxic patient to stand upon one leg, instead of two, with the eyes closed. If the patient shows a tendency to fall, it may be inferred that the spinal trouble has begun which will lead on to locomotor ataxia, even if the Romberg test fails, as it not infrequently does in cases that are not well advanced.

CRADINA—A NEW DIGESTIVE FERMENT.

(*The Therapeutic Gazette*, p. 214.)

Dr. Mussi, in a paper, gives a description of the isolation of a powerful ferment from the juice of the common fig-tree which has been named Cradina. It is insoluble in water, but dissolves readily upon the addition of a trace of acid or alkali, and the solution, placed in contact with moist fibrin, effects complete and true digestion. It contains nitrogen, and in the dry state it forms a friable, semi-transparent, dark yellow, amorphous mass, yielding an amber-yellow powder. In water it swells, but does not dissolve. though upon being shaken it imparts to the liquid a milky appearance. When dissolved by the aid of alkali or acid, a concentrated solution is dark yellow, but becomes colourless upon being diluted. It differs from pepsine in maintaining its digestive power in an alkaline liquor, and from papain in being insoluble in water, not precipitated from solution by alcohol or lead acetate, and in its activity not being diminished in the presence of hydrochloric acid. In a neutral liquid it is devoid of digestive power, and it has no action upon starch.

THE INFLUENCE OF SWEET OIL IN CHOLELITHIASIS.

(*American Med. News*, p. 307.)

Dr. D. Stewart advances the following idea of the action of sweet oil in this disease. Starting with the fact that oils and fats are decomposed in the duodenum into their fatty acids and glycerin, it occurred to him that glycerin so formed probably has the same action in the duodenum as in the rectum when used as a laxative enema, with drawing water and causing hyperæmia and irritation of the afferent nerves, thus leading to energetic reflex contraction of the gall-bladder, and cystic and common bile-duct. Hence concretions therein, sufficiently small to be expelled, are rapidly passed into the duodenum. He suggested also that the diffusive power of glycerin might enable it to enter the ductus communis and even the cystic and hepatic ducts, and perhaps reach the gall-bladder and the liver, producing a similar depletion of the vessels there and reflexly exciting the muscular fibres of these ducts to contraction, thus probably causing an outflow of dilute bile which would assist in expelling the stone. With this idea, it is suggested that glycerin might be administered in gelatin capsules in place of oil, the capsule being used to prevent the dilution of glycerin before it reaches the duodenum, or should oil be preferred, pancreatin, in capsules, might be simultaneously administered to ensure its complete splitting up.

THE GALACTOGOGUE PROPERTIES OF GALEGA.

(*The Therapeutic Gazette*, p. 216.)

Dr. de la Carriére read a paper at a meeting of the *Société de Médicin Pratique*, in which he claimed that galega exerted marked influence as a galactogogue in cases where the secretion of milk was diminished. It was given in a watery extract, in the dose of from 32 to 64 grains each day, and in almost all cases produced marked augmentation in the secretion of milk within a few days. It is stated that the secretion is not only increased in volume, but that also the solids in the milk are likewise augmented.

TIN-PLATE TREATMENT OF ULCERS.

(*Provincial Medical Journal*, p. 237.)

Dr. Moras gives these directions :—Cut a piece of tin plate (tinned iron) the same shape as the ulcer, but large enough to overlap about a quarter of an inch all round, a piece of lint of the same size, and another of oiled silk or rubber protective slightly larger. Dip the piece of lint in one-tenth per cent. bichloride of mercury solution and lay it over the ulcer, over the protective, and finally the tin plate, which is to be firmly retained in position by strips of adhesive plaster. Redress, if necessary, once or twice a day at first, then every four or five days.

TREATMENT OF CORNEAL ULCERATION BY DRY ASEPTIC DRESSING.

(*Provincial Medical Journal*, p. 237.)

Mr. Valude orders the eye to be washed carefully with a solution of sublimate (1 to 5,000), then over the closed eyelids a few turns of salol-gauze ; an ample pad of cotton-wool and another of moistened tarletan complete the protective dressing. It is left in place for three or four days, and on its removal the eye is generally found to be in a perfectly healthy condition, or, at least, in a fair way of recovery. This method is especially useful in the case of children, and nothing can be better, the author says, for simple ulceration without hypopyon.

TREATMENT OF PULMONARY PHTHISIS BY CHLOROFORM.

(*Provincial Medical Journal*, p. 234.)

Mr. Potter urges that by the inhalation of chloroform the bacillus of tubercle is destroyed in the lungs. A special apparatus to avoid danger has been contrived. It is not necessary to produce anæsthesia, but short of this the inhalations should be continued daily for several hours.

ARISTOL AS A SUBSTITUTE FOR IODOFORM.

(*Provincial Medical Journal*, p. 235.)

Aristol is the biniodide of dithymol, that is, a combination of iodine and thymol. It is obtained by mixing iodide of potassium with a solution of thymol in caustic soda. It is likely to replace iodoform for general use in surgery and dermatology. It is a fine yellow powder, somewhat resinous to the touch, almost odourless, the smell being faintly suggestive of iodine. It is less irritating, and stimulates without producing itching. It has been used for a variety of skin and venereal diseases, and is useful in chronic forms of eczema, made into an ointment with vaseline. Its antiseptic properties make it useful as a topical remedy in vegetable parasitic diseases of the skin, such as tinea, &c.

TREATMENT OF SCIATICA.

(*Amer. Med. News*, p. 419.)

Jaccoud gives the following treatment for sciatica. During the acute period severe counter-irritation, or local depletion, may be resorted to over the affected limb and hypodermic injections of morphia are to be given. If anæmia be present to any great degree, severe vesication is not to be applied. If the disease be due to rheumatism, it should be treated by the internal administration of salicylate of sodium given in the dose of from ½ to 1 drachm a day. Other cases may require large doses of quinine. Jaccoud prescribes the hydrobromate of quinine in the dose of 15 to 30 grains a day, and continues it until the symptoms of its physiological action become manifest. In this case the treatment is suspended for one or two days, and then begun again. When sciatica passes into a chronic state, it is best to administer a mixture containing iodide and bromide of potassium in the dose of from ½ to 1 drachm each, to be dissolved in a suitable vehicle, such as sarsaparilla. Externally resorcin may be applied and simple vapour baths or turpentine vapour may be use. The pain may be relieved by morphia.

MERCURIAL STOMATITIS.

(*Provincial Medical Journal*, p. 240.)

M. Fournier mentions the fact that in former times, in order to cure syphilis, a profuse salivation was thought necessary, and inunction was found to answer the purpose best. If mercury be given by the mouth the stomatitis is slow to appear, and shows itself in a partial form which never exceeds a medium severity. If mercury be rubbed in, on the other hand, the stomatitis is generally sudden in its onset, and very much more severe. Mercurial inunction is a rough treatment, and it weakens the patient a good deal. To prevent stomatitis the following directions should be attended to: the mouth should be in good condition. Often mercury cannot be tolerated until carious teeth, &c., have been attended to by the dentist. The teeth should be well brushed, and mouthwash of chlorate of potash used. As a curative treatment, the eroded parts should be touched with nitrate of silver, and a mouthwash of potassio-chlorate or alum used. In the stomatitis of medium severity chlorate of potash in sweetened water should be given. In the acute stage emollients must be used, gargles cannot be used on account of the pain they cause. Painting with cocaine is useful. Milk only can be taken. Opium is of value.

FOR DISSOLVING DIPTHTHERITIC MEMBRANE.

(*Med. News*, p. 305.)

Caldwell recommends the following solution for this purpose:—Papain, 2½ drachms; hydronaphthol, 2 grains; hydrochloric acid, 15 drops; distilled water, 3 ounces; glycerin water, 2 drachms. This is to be applied to the affected parts by means of an atomiser every half-hour.

TREATMENT OF DYSENTERY.

(*Med. News*, p. 305.)

Minorbi, in *L'Union Médical*, has treated with great success cases of dysentery by the insertion into the rectum of suppositories made as follows:—Naphthalin and cacao butter, of each 2½ drachms.

When there is ulceration, or any other condition which tends to make the use of a suppository painful or dangerous, he has recourse to the following injection:—Naphthalin, 75 grains; olive oil, 6 drachms. At the beginning of an attack, when there is a good deal of tenesmus, the injections should be given every half-hour, but ordinarily it is sufficient to repeat them three or four times in the twenty-four hours. In children who suffer from diarrhœa dependent upon the presence of parasites in the lower bowel, the quantity of naphthalin which is employed should not be more than 15 grains in 4 ounces of oil.

TREATMENT OF ARTICULAR RHEUMATISM BY MERCURY.

(*Med. News*, p. 306.)

Calalb, of Bucharest, employs the following method in the treatment of this disease. He applies ointment of mercury around the inflamed joint, and surrounds this with gutta-percha, which is kept in place by bandages of tarlatan. This dressing is left undisturbed for four days, and at the end of that time he asserts that the pain completely disappears, or, at least, is very much better. The application may then be renewed. Care should, of course, be taken that too much mercury ointment is not used, owing to the danger of ptyalism. In eight cases in which the author has resorted to this method he had the most excellent results, and he states that the patients bear the mercury exceedingly well. It is advisable to let them have a gargle of chlorate of potassium and myrrh, to prevent any tenderness of the gums.

TREATMENT OF MALIGNANT PUSTULE.

(*Med. News*, p. 306.)

Casson, in this disease, has employed with success subcutaneous injection of bichloride of mercury. In one case there were four pustules, and into each of these pustules he injected strong solutions of corrosive sublimate. The pain which followed the injection disappeared after the first use of the drug. At the same time that these injections were employed, the surface of the pustule was dressed with lint soaked in a strong solution of the corrosive sublimate.

A METHOD FOR REMOVING TATTOO-MARKS.

(*Boston Medical and Surgical Jonrnal*, p. 274.)

Variot gives the following directions for the removal of tattoo-marks. The skin is first washed with a concentrated solution of tannic acid, and is then closely punctured with a set of needles, such as tattooers use. A crayon of nitrate of silver is then thoroughly rubbed over the area, and after a moment the skin is dried, when it will be found that the punctures are deeply blackened by the formation of the tannate of silver in the superficial layers of the skin. The cauterization is said to result in an inflammatory reaction for a couple of days, and subsequently in the formation of a crust or thin eschar, which separates spontaneously in from fourteen to eighteen days, leaving beneath it a superficial red cicatrix, which gradually loses its colour, and at the end of a few months is scarcely perceptible. He does not consider it expedient to attack at one sitting an area larger than a silver dollar, lest the inflammation should be too severe. The part is to be kept powdered with tannin.

PROPYLAMINE IN ACUTE ARTICULAR RHEUMATISM.

By Dr. Andrei G. Zolotareff.

(*Meditzinskia Pribœrbenia R'Morskomii Spornkiii*, April, 1891, p. 231.)

At a meeting of the Sevastopol Naval Medical Society, Dr. Zolotareff has related two cases of acute rheumatic polyarthritis, in which, following the recommendations by Svenarius, Dujardin-Beaumetz, etc., he successfully resorted to the internal administration of propylamine. One of the patients (sailors) who was suffering from severe inflammation of the knee, ankle, hip, shoulder, wrist, and digital joints with cardiac pain and murmurs, high fever (40° C.), backache, headache, epistaxis, and mild delirium, had been previously vainly treated by salicylate of soda, colchicum, antipyrin, turpentine, and blisters (applied both to the cardiac region and diseased joiuts). Propylamine was given, one scruple a day, with soda and mint infusion. On the fifth day of the treatment the temperature returned to the standard, the frequency of the pulse fell to 62 or 68 per minute, articular pain and epitaxis subsided, headache and backache disappeared, and the patient's subjective state and sleep improved. The daily dose of the drug was subsequently diminished to ten drops, the patient ultimately leaving the hospital quite well (with a sound heart). The other case was treated with propylamine from the beginning, the patient being discharged on the eighteenth day. It is noteworthy that in the latter case the drug in daily scruple doses reduced the frequency of the pulse from 65 or 60 to 43 per minute. To obviate the effect, the dose was diminished, and tincture of valerian was added to the mixture.

The author points out that propylamine (1) produces an inhibitory action on the systemic metabolism; (2) reduces the temperature; and (4) alleviates pain and irritation of the nerve system.

BROWN-SEQUARD'S TESTICULAR EMULSION IN PULMONARY TUBERCULOSIS.—THE EFFECTS OF INJECTIONS OF MILK.

By Dr. Michaïl K. Zenetz. (*Vratch*, No. 9 1891, p. 241.)

Anxious to verify the statements recently made by Drs. Uspensky (*vide* the London Medical Recorder, January, 1891, p. 19), Viktoroff (*ibid.*, March, p. 103), and Roshtchinin (*ibid.*, p. 165), Dr. Zenetz, of Warsaw, has undertaken experiments (in Prof. I. I. Stolnikoff's clinic) on four men, aged from thirty-three to fifty-two, suffering from late pulmonary tuberculosis (in three with extensive excavations). A canine testicular emulsion, prepared after Brown-Séquard's rules (including filtration), was invariably employed, the dose varying from one to two syringefuls, the total number of the injections in individual cases from five to nine, and the intervals between the *séances* from one to nine days.

The salient points of the investigation may be given thus:—

(1) In all the patients, the injections (made between one and two p.m.) were invariably followed by a febrile rise, commencing in about two or three hours, attaining its highest level (from 38·2 deg. to 39·5 deg. C.) in about six, and subsiding towards the next morning.

(2) The pulse usually became stronger and fuller, and the cardiac action occasionally somewhat more energetical, which effects, however, were but short-lasting.

(3) In all, cough decreased, and they improved.

(4) The subjective state similarly underwent some amelioration.

(5) In one case where there existed nocturnal attacks of diarrhœa, the latter recurred less frequently during the nights after injections.

(6) The manual strength in two patients decreased (in one of them it steadily sank from 100 kilogrammes to 91¼ in twenty-nine days). In a third, however, it gradually rose from 112·5 to 122½ in ten days.

(7) The bodily weight, noted in two cases, fell in one from 52 to 50·8 kilogrammes, and in the other from 46·5 to 44·7.

(8) In none of the cases any slightest influence on the pulmonary process could be observed (two of the patients died from exhaustion, one on the fourth day after the last injection, and the other on the eleventh. Of the surviving, one could be discharged on account of "a considerable improvement"). In a fifth case of advanced phthisis, communicated to the author by Dr. Chelmonski, and referring to a schoolmaster of fifty-four, the only appreciable effect (after ten injections within twenty days) consisted in some improvement of sleep. No febrile movements occurred after injections.

Dr. Zenetz says, further, that (1) he tried the emulsion in a fairly severe case of locomotor ataxy, the effects being limited to febrile rises after each injection. (2) In a healthy young *feldsher* (a medical assistant) the injections, apparently, induced some sexual excitement, but did not manifest any impression on the

temperature. (3) In a healthy young hospital nurse, the temperature similarly remained normal, though she declared that the injections caused night sweats and sensations of heat. (4) To elucidate the effects of albuminous fluids in general, the writer has made subcutaneous injections of a new sterilised cow's-milk in the following cases: (*a*) in the just-mentioned young persons, the results being purely negative (from either sort of milk); (*b*) in two of the patients previously treated by the testicular emulsion. In both, the injection of two (Pravar) syringefuls of new milk gave rise to a very violent reaction, consisting in a high fever (40 deg. C.). Next, rigors and general prostration with malaise, and subsiding towards the next morning. An injection of a sterilised milk was also followed by reaction, but of a milder nature (the temperature rising only up to 38 deg. C.); (*c*) a woman with late phthisis. An injection of a sterilised milk caused a violent reaction (fever up to 40 deg. C., etc.), which most closely resembled that observed in the patient after injections of Koch's tuberculin. Analysing the facts, the author arrives at the general conclusion that "in patients suffering from severe diseases (such as phthisis, tabes, etc.) the heat-regulating nerve centres are in the state of an intense disturbance, and hence can be at once thrown out of their equipoise by hypodermic injections of such fluids as Koch's tuberculin, Brown-Séquard's emulsion, or a new or sterilised milk, while in healthy persons, with a normal regulation of systemic heat, the said liquids fail to produce any effects of the kind."

SULPHATE OF DUBOISINE AS A SEDATIVE

(*Boston Medical and Surgical Journal*, p. 273.)

Dr. Ostermayer has convinced himself by observations on thirty patients, subjects of various mental disorders, that sulphate of duboisine, employed in hypodermic injections, is a powerful sedative and hypnotic in mental affections accompanied by excitement and insomnia. Its action appears to be analogous to that of hyoscine, over which it is said to possess some advantages. In the majority of cases, a dose of one milligramme produces, after about ten minutes, a very marked sedative effect, followed, in from twenty minutes to half an hour, by sound sleep. In cases of great excitement, however, two to three milligrammes are needed to produce this effect. The drug, in the above doses, has not been known to produce untoward symptoms, and may be used in cardiac diseases with greater safety than hysocine. Sulphate of duboisine has been employed in the night-sweats of phthisis, and it has been recommended in Basedow's disease.

THERAPEUTIC ACTION OF CAMPHORIC ACID.

(*The Therapeutic Gazette*, p. 205.)

The value of camphoric acid in acute and chronic catarrhs of the respiratory mucous membrane, acute and chronic cystitis, and in the night-sweats of phthisis, has recently been studied by Dr. Hartlieb, at Griefswalder. The drug was administered in the form of an alcoholic solution, 1 part of camphoric acid in 11 of alcohol, in glycerine solution, and in aqueous solution with the addition of bicarbonate of sodium. In angina of various forms, one-half to one-per-cent solutions were employed as a gargle and as a local application, though without any advantage over the drugs usually used. Very favourable results, however, are claimed to have followed its employment in cases of chronic cystitis, three out of five being absolutely cured within three to six weeks, the remedy in these cases being employed in one-half-per-cent. solution, with which the bladder was washed out twice daily. Stronger solutions than one per cent. cause too much irritation and should not be used, although the author recommends the plan of washing the bladder out with eight grains in solution three times a day.

CREASOTE IN DIABETES.

(*Prov. Med. Journal*, 6th April, 1891, p. 242.)

Dr. Audibert has found creasote of great value in diabetes, especially in two cases in which, notwithstanding the rigid diet, sugar still persisted in the urine. After trying various remedies, these patients were given creasote in doses of twenty centigrammes, afterwards thirty and then forty daily. The urine, on being tested, contained only slight traces of glucose, which a few days afterwards entirely disappeared. This improvement took place in both patients, although one of them, despairing of any cure, had deliberately neglected to observe his instructions as to diet.

ICTHYOLATE OF AMMONIUM IN ERYSIPELAS.

(*Prov. Med. Journal*, April 1891, p. 242.)

The part affected should be disinfected with salicylic acid or corrosive sublimate, afterwards pure icthyolate of ammonium, or mixed with an equal quantity of lanolin, must be rubbed in during ten or fifteen minutes a hand's-breadth beyond the margin of the erysipelas. Sufficient of the ointment should remain in the skin to make it of a brown instead of a red tint, and the whole part must be covered with cotton-wool, as far as practicable. The sensation of tension and heat yields under this treatment to an agreeable feeling of freshness. At the same time the icthyolate may be given internally as a pill. Under this treatment fever subsides, and the duration of the disease is less than half of that which it would be under other methods of treatment.

BASSORIN PASTE—A NEW BASE FOR DERMATOLOGICAL PREPARATIONS.

(*Therapeutic Gazette*, p. 192.)

Dr. George Elliott describes this preparation as belonging to the class of vegetable mucilages derived from gum tragacanth. It is mixed with water, glycerine, and dextrin, and the compound is known as bassorin paste; it is of the consistence of a jelly, tawny in colour, somewhat resembling vaseline. It has no particular odour, is absolutely neutral in reaction, and does not decompose. It is claimed that it does not come off when once dried on the skin, and thus soiling of the linen or bed clothes is avoided. When it is desired to remove it, this can at once be done by means of a damp sponge. Any solid substance can be incorporated with this base in proportions as large as are ever found necessary. Its advantages are, that it is a perfectly neutral substance,

which, of itself, produces no irritation whatever, and when used alone it acts simply as a protective to the skin. It is easy and simple in application, requiring only to be spread upon the skin with the finger or brush. It dries in the space of a few minutes if so applied, adheres closely, and does not rub off, but forms a flexible coat. Any drug, with the exception of fluids and alcoholic solutions, can be mixed with the base, and when so mixed their effect upon diseased parts appears to be as good as when used with other excipients.

ICTHYOL AND ITS PREPARATIONS.

(*Boston Medical Journal*, p. 298.)

Grandmont says that icthyol itself, and especially the icthyolates of ammonium, sodium, lithium, and zinc, have been advantageously employed, both externally and internally. As a whole, icthyol has been found to be a powerful antiphlogistic remedy. Unna has employed it in skin diseases, and internally in doses of from fifteen to sixty grains. Patients, under its use, have increased in bodily weight. The icthyolates have been used with good results in the treatment of vesical catarrh, blenorrhagia, pyonephritis, and Bright's disease. For external use, a watery solution of any of the icthyolates may be employed in the strength of ten per cent., or, in the form of an ointment, twenty-five to thirty per cent.

PEROXIDE OF HYDROGEN FOR CLEANING THE HANDS.

(*Journal of Dermatology*, p. 129.)

Noble recommends the use of a solution of peroxide of hydrogen of full strength. He has employed it whenever the skin about the nails has not been in good condition; and he says it is remarkable to see how it will soften horny skin at the side of the nail, and disintegrate *débris* in the sub-unguinal space. He employs it after first cleansing the hands with soap, hot water, and a nail-brush It is reliable in removing foul odours and stains from the hands produced by contact with decomposing pus, discharges from cancer, and other septic fluids.

TERPENE IODIDE IN ACUTE DISEASES OF THE LUNGS.

(*The Therapeutic Gazette*, p. 199.)

Dr. William Gregg maintains that, different to so many drugs which undergo important modifications in the stomach before finally entering the circulation, terpene iodide enters the circulation unchanged, and when administered by the stomach acts quite as quickly as if it were administered hypodermically; it is a powerful antiseptic, is comparatively harmless, is free from unpleasant after-effects, and the author maintains that in many cases of acute pulmonary disease, more particularly acute congestive pneumonia, and those catarrhal and throat affections which are so often the premonitory symptoms of more serious mischief, the disease may be cut short by the administration of the terpene iodide. In acute affections of the throat, he recommends its use in spray, while in other cases it may be given to adults in ten-drop doses, on a teaspoonful of sugar, once or twice a day—in the morning and at bedtime. The morning dose should be followed by a glass of milk or bouillon. Larger or more frequent doses are apt to produce marked diuretic effects.

APOMORPHIA IN ACUTE BRONCHITIS.

(*Prov. Med. Journal*, April 1, p. 236.)

Dr. Reynold Wilcox (New York) recommends, for the treatment of this complaint, the use of apomorphia, which has the property of exciting a profuse watery discharge from the bronchial mucous membrane, which, in from twenty minutes to half-an-hour, leaves it paler in colour and less swollen, and correspondingly reduces the sibilant *râles*. In using this remedy its remarkable emetic property must be borne in mind, and it is better to give it in repeated doses, so as to obtain free expectoration, without emesis. Another point is to get the lungs freed from mucous by effectual coughing. Direct the patient to have a tumbler of hot milk, as soon as he awakes in the morning, with his dose of apomorphia, to lie quietly for half-an-hour, then to sit on the edge of the bed and take a few deep breaths. A violent fit of coughing with much expectoration follows and reduces the subsequent amount to a minimum during the day. When there is bronchorrhœa, apomorphia is of course inadmissible, and muriate of ammonia is most valuable, and strychnia occasionally useful.

THE HYPODERMIC USE OF CORROSIVE SUBLIMATE IN DIPHTHERIA AND SCARLATINA.

By D. J. Jacoutini. (*Bull-Gén. de Therapeutique*, Feb. 28, 1891.)

In a severe epidemic of scarlatina the author tried the effect of hypodermic injections of sublimate. He gave it in doses of one centigramme for eight or nine days. Under this treatment the fever diminished rapidly and the throat troubles disappeared. Encouraged by these results, he applied the same treatment to two severe cases of diphtheria, with equal success. The number of cases quoted, and the details given, are too meagre to allow of any conclusions being formed as to the real value of the method.

ON THE USE OF ATROPINE IN CARDIAC DISEASES.

By Prof. A. Cardarelli. (*Bull.-Gén. de Thérap.*, Feb. 28, 1891.)

This paper gives a very careful account of the results obtained by the author from the use of atropine in sixty-five cases of heart-disease. His conclusions may be summarised as follows:—

(1) Atropine in medicinal doses ($\frac{1}{2}$ to 2 milligrammes hypodermically) always manifests its first action on the heart.

(2) This action is almost constantly exercised on the pneumogastric, the inhibitory power of which is diminished to a greater or less extent.

(3) As a consequence of this, the cardiac rhythm is accelerated; in a few cases there is first a slight and transitory slowing.

(4) The arterial pressure is lowered at the same time as the cardiac rhythm is accelerated.

(5) In slight forms of vagus-irritation leading to

slowing of rhythm, atropine should be given if the constant slow pulse is accompanied by vertigo or a tendency to syncope.

The paper concludes with some remarks based on a large clinical experience on the modes of action of atropine in the different varieties of arhythmia.

THE DIAGNOSIS AND TREATMENT OF NEPHRITIS IN THE ABSENCE OF ALBUMINURIA.

From papers by Drs. Bond and Lifchitz. (*La Semaine Médicale*, March 4, 1891.)

It is well recognised that a chronic nephritis is not always accompanied by albuminuria, and, conversely, that not every patient with albuminuria has nephritis. Recent observers, especially Drs. Bond and Liftchitz, have shown that it is not difficult to make a diagnosis of kidney mischief even in the absence of the cardinal symptom. In each of fifty cases of nephritis, Dr. Bond found that the excretion of urea was very deficient as compared with that of a healthy sign. Of these cases no less than forty passed urine in which albumen and casts had been either never or very rarely found. A series of thirteen similar patients collected by Dr. Lifchitz shows that whereas a healthy individual excretes from 27 to 36 grammes of urea daily, a patient with nephritis excretes only from 10 to 22 grammes.

From the above observations we may derive the following rule:—Whenever a patient complains of vague general troubles, such as vertigo, weakness, nausea, pallor, dyspnœa, which cannot be accounted for in any ordinary way; and if his urine at the same time shows a constant diminution of urea, he is suffering from chronic nephritis, even if no albumen or casts can be found. As regards treatment, saline purgatives will usually suffice to remove the principal symptoms (anorexia, dyspnœa, etc.) Diuretics will, as a rule, complete the cure of slight cases.

NEW REMEDIES.

(*Provincial Medical Journal*, p. 235.)

(1) Methylal, a limpid fluid, slightly reddening litmus; it dissolves in three times its volume of water, in alcohol, ether, and volatile oils; the vapour is not inflammable; its odour resembles that of chloroform or acetic ether. It is employed in nervous pains, and in the form of liniment or pomade makes an excellent anæsthetic. It has been employed in hypodermic injections, and in this way sleep has been produced in two hours, but the dose may require repetition. It forms an excellent hypnotic in delirium tremens and in cerebral anæmia; its use is contra-indicated in cerebral hyperæmia. It has no injurious action upon the heart.

(2) Pyrodine is a white crystalline powder, but slightly soluble in water. Dr. Dreschfeld regards it as an energetic antipyretic, given in doses of five centigrammes an hour, before the access of fever followed by another dose four hours afterwards. If given at short intervals, toxic symptoms aro produced.

(3) Lactose is a powerful and innocuous diuretic. Polyuria to the extent of from two and a half to four litres of urine may be produced by 100 grammes of lactose. It is found useful in dropsy. One hundred grammes dissolved in one litre of water should be given twice a day.

THE QUESTION OF THE USE OF WARM WATER IN HYDROTHERAPY.

By Dr. Durand-Fardel. (*Bull Gen. de Therap.*, Feb. 19, 1891.)

This paper is, practically, a review by a hydrotherapeutist of the work of another professor of the same system. We should have thought, with M. Béni-Barde, that the term "Hydrotherapy" might be taken to include, generally, treatment by baths, and that the question of temperature would be quite a subsidiary one; but the critic will allow no such latitude. According to him, the sole principle underlying the whole system is— the application of *cold* for the sake of the resulting *reaction*. We may use tepid or warm baths for the sake of their sedative effects; we may employ medicated baths of all sorts; but neither of these plans must be called "Hydrotherapeutics." We fear that Dr. Durand-Fardel will find few sympathisers in this country; as physicians we may employ baths, hot, cold, or lukewarm, as we think fit, but we do not care in the least whether our treatment be true hydrotherapy or not. We are content with the effects produced, and do not trouble ourselves about the exact nomenclature to be applied to it.

IRON QUININE CHLORIDE.

(*Pharmaceutical Journal*, p. 877.)

Dr. J. Kersch calls attention to this preparation which is made by adding an equivalent weight of pure quinine to a solution containing an equivalent of ferric-chloride, in which it dissolves, forming a dark-red solution. This thickens upon standing for a time in a warm place to a paste, which when dried at a moderate temperature, sheltered from light, forms a hard dark-brown mass, presenting a resinous fracture. It dissolves freely in water and alcohol, somewhat less freely in ether, and has a bitter astringent taste. Dr. Kersch states that, applied externally, the compound has hæmostatic properties similar to ferric chloride, but that, even in concentrated solution and applied to fresh wounds, it is without causticity and perfectly painless in its action. Administered internally, a ten-per-cent. solution has been found very useful in cases of profuse hæmorrhage *post abortum*, in doses of ten drops, every one or two hours, given in water or on sugar enclosed in a wafer; also in profuse menstruation in ten-drop doses five or six times a day, and in pulmonary hæmorrhage.

ANTIPYRIN IN GLAUCOMA.

(*Provincial Medical Journal*, p. 274.)

Dr. Olga Mashkovtzena draws attention to antipyrin as an excellent means for alleviating pain in cases of glaucoma. A working woman, aged forty-nine, consulted him on account of incessant excruciating pain about the left eye and temporal region, causing obstinate insomnia, the symptoms having first appeared about three and a half weeks previously, shortly after an attack of influenza. The examination revealed conjunctival and bulbar congestion, opaque cornea, flattened anterior chamber, dilated and sluggish pupil, venous hyperæmia of the disc, and a glaucomatous excavation. Two doses of a solution of sulphate of eserin (one grain to one and a half drachms of water) were instilled into the eye, and antipyrin, in

ten-grain doses, every hour for three hours was administered internally. No relief was experienced after the eserin drops, but after a third dose of antipyrin the pain subsided, the patient falling soundly asleep. On the next morning the ocular congestion was found less marked, the temperature of the eyeball lowered, and vision slightly improved. After taking two doses of antipyrin on the next evening, the pain disappeared altogether.

ADMINISTRATION OF CHLOROFORM.

(*Prov. Med. Journal*, p. 242.)

The discussion which took place at the Academy of Medicine, Paris, has emphasised two important points:—(1) The importance of a strictly pure drug; (2) That its intelligent administration will almost entirely, if not absolutely, obviate danger. Any complicated apparatus alarms the patient and predisposes to syncope. The best is a simple handkerchief or fold of linen, and it is best administered in very small doses as continuously as possible. The purity of the chloroform is the essential point; to ensure this the chloroform should be recently prepared; should be contained in a bottle nearly filled, and the bottle should be of coloured glass to preserve the contents from the action of light.

THE TREATMENT OF CORYZA.

(*Amer. Medical News*, p. 419.)

In the treatment of coryza Rola recommends that a teaspoonful of powdered camphor be added to a pitcher of boiling water, and that a cone of paper be placed over the mouth of the vessel, the other end of the cone being placed over the mouth and nose of the patient. The vapour which arises from the water is charged with the camphor, and may be inhaled for from five to ten minutes. Three inhalations are usually sufficient to arrest the most rebellious coryza. These inhalations provoke a most abundant secretion from the nasal and pharyngeal mucous membrane, and exert a favourable effect upon the inflamed part.

ACTION OF CALOMEL ON CONJUNCTIVITIS OF PATIENTS TAKING IODIDE OF POTASSIUM.

By Dr. Piedallu. (*Lyon Médical*, February 29, 1891.)

A patient of Dr. Piedallu was suffering from suppuration, with a large ulcer of the cornea, the result of the accidental introduction of ipecacuanha into the eye. This was treated by antiseptic lotion, and by the introduction of powder, consisting of equal parts of calomel and sugar. In a quarter of an hour from the application there was intense pain, with great swelling of the eyelids and conjunctiva. Suspicion fell on the calomel, but on enquiry it was found that the patient had been taking daily, for about six months, from fifteen to thirty grains of potassium iodide. Analysis of the tears then showed that they were actually an iodide solution. Evidently an intensely caustic combination had been formed between the calomel and the iodide, and the result has been a serious danger to the eye itself, with great loss of vision. This case deserves mention, in order that others may guard against the risk of using calomel for the eyes of patients taking iodides.

CREASOTE IN SACCHARINE DIABETES.

By Dr. Valentini. (*Nouveaux Remèdes*, March 8, 1891.)

Valentini has successfully treated two cases of diabetes by creasote, given internally. The first patient took at first ♏x. per diem, which was gradually increased to ♏xx. in twenty-four hours. Under this treatment the sugar disappeared, and did not reappear even when the patient was allowed to resume starchy foods. The second patient received six drops daily, and showed very considerable improvement under the treatment.

ARSENIATE OF COPPER (ARSENIGSAURES KUPFER) IN ACUTE DISEASES OF THE INTESTINE.

By Dr. Hugo Schutz. (*Deutsche Med. Wochenschr.*, No. 10, 1891.)

This preparation, first brought forward by *Aulde*, in 1890, has been tried by twenty-six observers in the following cases:—

116	cases of	Cholera Asiatica
151	„	Cholera Infantum
198	„	Diarrhœa and Dysentery
82	„	Colic
6	„	of Phthisical Diarrhœa
20	„	Typhoid Fever
4	„	Anæmia and Chlorosis

The results are reported to have been very satisfactory in all. In children it should be administered as follows:—Arseniate of copper, 0·0003 grammes; distilled water, 120—180 grammes. A teaspoonful to be given at first every ten minutes, then, after the first hour, every half-hour. Infants at the breast, two drops very frequently repeated

REMARKS ON THE TREATMENT OF RACHITIS BY PHOSPHORUS.

By Dr. Voute (of Amsterdam). (*Bull. Gén. de Thérap.* April 15th, 1891.)

Our knowledge of rickets and of its therapeutics has been much advanced by the researches of Kassowitz, of Vienna. This writer, relying in a measure on the observations of Wegner, has rejected the theory which would seek for the chief cause of the phenomena of rickets in an anomaly of the processes of digestion and nutrition, and has constructed a new theory which he names the "anatomical theory."

The problem of rickets, like many other medical questions, does not find a completely satisfactory explanation in this new doctrine; nevertheless, it is strong enough to overthrow the old idea that the prime cause should be sought in the alimentation. It is true that lime-salts are necessary in food during the period of development of bones; it is also true that rachitic bones are poor in lime-salts, and that in the stools of a rickety child there is a greater proportion of these salts than in health. It is unjust, however, to conclude from this either that too little lime is contained in the food, or that the lime-salts are dissolved by the lactic

acid formed in consequence of deranged digestion. As regards the latter point, Escherich has shown that free lactic acid occurs in the stools of even healthy children; and as for the first point, lime-salts are present, even in milk from a woman who has suckled her child more than a year, in larger quantities than are necessary. Besides, all have observed cases of rickets in children well nourished and properly brought up.

All that can be said, then, of the lime-salt theory is, that as a consequence of the rickets, the lime-salts are not properly assimilated; and this is explained by M. Kassowitz, who thinks that the strong current of plasma occasioned by the excessive formation of blood-vessels has a retarding and dissolving influence on the lime-salts. According to him the chief characteristic of rachitis is an abnormal hyperæmia and an excessive formation of blood-vessels in the tissues forming the bones, and that all the other symptoms are the direct or indirect consequences of the anomaly of the vessels. He states that a cure is always accompanied by a diminution of the hyperæmia of the bones, caused by an involution of the newly-formed blood-vessels. These facts were not before unknown in science. Lasèque, Trosseau, Virchow, and others also drew attention to this same point—the inflammatory condition of rachitic bones. The experiments of Wegner showed that small doses of phosphorus exercise a very marked consolidating influence on new deposits of bone. This suggested to Kassowitz to try phosphorus in small doses in rickets. In order to exclude other influences, he gave the drug without in any way changing the conditions of feeding of the children. The result surpassed anything he could have hoped; nearly all cases thus treated exhibited marked and rapid improvement, and a very extensive experience in no way shook his faith in the remedy. With such results it becomes incumbent on all to try this remedy, which is at once simple and inexpensive; for whoever has had much experience of hospital practice will admit how large a proportion of patients is made up of rachitic children, and the ordinary treatment by diet, tonics, and baths, besides being costly, is far from yielding rich results.

Dr. Voute gives the results of his experience, during nearly ten months, of the phosphorus treatment. The effect of the drug was always studied especially as regards diminution in size of the great fontanelle; it was found that an observation of this point was very convenient to determine the effect on the bones in all cases. His results are as follows:—From January, 1890, till the middle of October, 1890, 1,146 cases came to the polyclinic; of these, 132 (*i.e.*, about 11·5 per cent.) were cases of rickets. Of these, there are forty in which marked improvement resulted from treatment by phosphorus. In ten others, the results were uncertain or the treatment was very prolonged. In thirteen, it was believed that intestinal troubles were produced by the drug, which was, therefore, discontinued. Forty-two children did not return after the first prescription, and must, therefore, be omitted from consideration; while twenty-seven were treated in other way. Phosphorus was thus employed in sixty-three cases during some time, which gives, placing the doubtful cases, and those in which it was not tolerated, together, an average of sixty-three per cent. of instances of improvement. The drug was given in cod-liver oil, as follows:—Phosphorus, 1 centigr.; Ol. morrhrræ, 100 grammes; a teaspoonful being given either once daily, or in divided doses, morning and evening. The above results need no comment.

THERAPEUTICS OF DIPHTHERIA.

By Prof. F. Lœffler. (*Deutsche Med. Wochenschr.* No. 10, 1891.)

Prof. Lœffler, the discoverer of the diphtheria bacillus, made a communication last January on a series of experiments carried on by him in the laboratory with a series of substances on pure cultivation of the bacillus. He comes to the conclusion that patients with diphtheria ought to gargle hourly with a 1-in-10,000 solution of corrosive sublimate, or 1-in-800 of the cyanide, and once in three or four hours with 1-in-1,000 of sublimate, or 3-per-cent. carbolic solution in 30-per-cent. alcoholic sol. He quotes the experience of *Morler* with sublimate, and that of Struburg with carbolic acid. He admits, however, that there is a great difference between experiments in the laboratory and those carried out in the human body.

TREATMENT OF HEPATIC COLIC BY OLIVE OIL.

By Dr. E. Willemin. (*Bull. Gén. de Thérapeutique.* March 30, 1890, and April 15, 1891.)

Several years ago it was proposed to treat hepatic colic by large doses of olive oil. The practice became a frequent one in the United States, and a few successes were also proclaimed elsewhere. A fresh interest was given to this simple form of treatment by the publication, 1887, of a paper by Touatre (*Arch. roumaines de méd. et de chir.* Paris), in which he described several brilliant cures effected by large draughts of oil. Since this, several have published equally satisfactory results, and attempts have also been made to explain the mode of action of the oil, but no attempt has been made to analyse and compare the results obtained. In the present paper, the author, after collecting numerous instances of cures from various sources, describes a series of nine cases in which he employed the treatment with success. The mode of using the oil varies somewhat under different circumstances. If used to prevent an attack of colic which appears imminent, it is best to give the oil in the evening, as far as possible from a meal, in order not to derange digestion; a dose of fifty grammes, repeated several days in succession, will generally be sufficient to prevent the outset of an attack. When it is a question no longer of preventing, but of treating an attack of colic, the plan has varied somewhat with different physicians. Toutre gives a large glassful of plain oil (200 grammes), repeating the draught in a quarter, or half-an-hour. Others prefer combinations of oil with belladonna. Dr. Willemin has always used plain olive oil, giving a single glassful, and finding it unnecessary to employ other means, in order to obtain after a few hours a purgative effect, and to arrest the vomiting. Only, to remove the disagreeable taste of the oil, he gives his patients a small quantity of strong spirit before and after swallowing the draught. Notwithstanding the repugnance or the disgust which nearly all show for this remedy, he has never seen vomiting produced; a pre-existing nausea has even ceased immediately after the ingestion of the oil. This corresponds well with the following remark of M. Chauffard:—"However disagreeable this medication may seem at first sight to be, it is almost always well borne; there is little nausea, and hardly ever even slight vomiting,"—and this even though M. Chauffard

gives his patients 500 grammes of oil. Even if an attack of biliary colic is accompanied by vomiting, a draught of oil will act as rapidly as an injection of morphine, and probably more surely, for morphine, besides sometimes causing inconveniences, such as prolonged vomiting, often only subdues the pains for a few hours, after which they return with as great vigour as before.

I. The author's conclusion is, then, that olive oil is a very valuable remedy; given in a large dose during a violent crisis, it (1) arrests the acute pains almost instantaneously, and (2) diminishes considerably the period during which the patients exhibit the dull pains, the depression, malaise, and even the jaundice, so frequent after a bad attack. This second effect is also observed in a very striking manner when the oil is not given till after the acute stage.

II. If an attack appears imminent, the use of oil in divided doses, repeated during several days, will often prevent it.

III. Biliary calculi, the cause of the colic, are frequently found in the stools after using the oil. Thanks to the purgative and cholagogue effect of this medicament, it is probable that the calculi are frequently removed from the biliary and digestive passages, and that they would be found much more frequently in the stools if the search were made with greater care and perseverance.

IV. Lastly, it is to be noticed that in a good number of observations, authors insist on the fact that, after the cure of a hepatic colic by oil, many months often pass without the appearance of fresh crises; there is, however, no reason to suppose that the oil *cures the lithiasis*. For, after a violent attack, whether it has lasted only a few hours or several weeks, it is usual for a long respite to follow, which may last for a year or even longer. Now the greater number of the published cases only remain under observation for a few months, and it is not astonishing that fresh attacks should not have appeared in this short time. In fact, in some of the author's cases, recurrences did actually occur, and in others the hepatic symptoms were replaced by some other indication of the same diathesis. We must still therefore admit the truth of the statement, made by Kennedy, more than ten years ago, that olive oil in large doses has a remarkable effect in the treatment of hepatic colic, whilst being absolutely inefficacious against the diathesis whence the symptom arises.

As regards its mode of action, the author is of opinion that the oil, causing the secretion of a more fluid and more abundant bile, may prevent the formation of calculi, or remove them before a hepatic colic occurs; when the latter is present, the oil may arrest it by a reflex action which relieves the spasm of the bile-ducts, as well as the pains caused thereby; and later on the cholagogue action of the oil may favour the descent of the calculus into the intestine by washing it from the relaxed duct.

Gynæcology and Obstetrics.

THE USE OF ERGOT IN HEART-DISEASE.

(*Med. News*, p. 295.)

Dr. John Hemmeter states that in one case of aortic insufficiency with marked Corriegan's pulse, he witnessed marked improvement of the symptoms under ergot, after digitalis had failed. The patient complained of constant headache, giddiness, muscæ volitans, and stabbing pains over the heart and extending down the left arm. At present, eight months after ergot was first given, the patient is doing well. In a second case, one of initial regurgitation, with a tendency to pulmonary engorgement and hæmorrhage, ergot proved a useful drug. The dicrotic pulse is much improved under ergot. This pulse is caused by a very low degree of pressure in the arterial system, and a very short systole. In fever the elevated temperature causes a low arterial pressure, the vessels being dilated, the systolic contractions being too short, and following each other too rapidly, constituting the conditions for discrotism. Ergot fulfils all the requirements necessary to counteract these deviations from the normal. It increases arterial pressure, renders the systole slower, gives the vessels increased tonicity, and reduces the temperature.

FISSURED NIPPLE.

(*Boston Medical Journal*, p. 299.)

Hirst has found excellent results following the use of the following application:—

Bismuth Sublimate } āā ʒj m
Olei Runi }

Before applying, the nipple and surrounding skin should be carefully cleansed, and the ointment should be smeared on plentifully.

TREATMENT OF ACUTE VOMITING OF PREGNANCY.

(*Medical News*, p. 249.)

The *Journal de Médicine de Paris* recommends five drops of a solution made up of equal parts of iodine and chloroform, to be taken at the time of eating by women suffering from this form of vomiting.

THE INDUCTION OF PREMATURE LABOUR IN CONTRACTED PELVIS.

By J. Whitridge Williams, M.D. (*New York Times and Register*, April 11, 1891.)

Premature induction means the artificial interruption of pregnancy at any period from the twenty-eighth or thirtieth week to the end of pregnancy. A chief cause of the comparative neglect of this operation was the almost total neglect of pelvic measurement. The introduction of antiseptic measures has almost entirely robbed the operation of danger to the mother, thus, in 1889, Korn states he lost one woman in 45 cases, and saved 66 per cent. of the children; while Ahlfield lost 1 mother out of 118 cases, and saved 62 per-cent. of the children. Unfortunately, the operation can only be thought of in very moderate degrees of contraction. "As pelves with a conjugata vera above 8½ cm. (3⅜ in.) offer a reasonable chance to both mother and child at term, and those below 7 cm. (2¾ in.) offer no chance to the child, I think the operation should be restricted to these limits, *i.e.*, between 7 and 8½ cm. (2¾ to 3⅜ in.) in simple flattened pelves. In the justo minor pelvis a conjugata of 9½ cm. (3¾ in.), or less, will usually be an indication for the operation. We thus have the operation restricted to a very narrow range, 1½ cm. (2/3 in.)

which should only be exceeded when the previous history tells us that the previous labours have all ended disastrously. We should not think of inducing labour in a flattened pelvis with a conjugate below 7 cm., for in that case the prospects for the child are almost *nil*, while the dangers to the mother are greatly increased. "In every case careful measurements, both external and internal, of the pelvis are necessary. The best time for operating is from the thirty-fourth to the thirty-sixth week. The size of the head may be gauged by (1) the size of parents, (2) measurement of fontanelles, breach, and feet; (3) Muller's method of forcing head down into pelvis. When this can no longer be so, he knows it is time to operate. For several days beforehand the woman should have warm antiseptic douches. Absolute antiseptic precautions must be taken. The best method is introduction of a flexible bougie. If that method fail resort may be had to Kewisch's plan of allowing a current of hot water, 100° to 110° F., to flow into the vagina several times daily for a period of from five to fifteen minutes; or as accessory methods the membranes may be punctured; or the membranes may be loosened about their lower pole; the vagina tamponed with iodoform gauze, or Barnes' bags inserted.

ON AN UNUSUAL CASE OF PELVIC ABSCESS.

By Alexis Léon, M.D. (*Boston Medical and Surgical Reporter*, April 4, 1891.)

An ordinary case of pelvic abscess with marked constitutional symptoms, and a palpable swelling, presents no great difficulties of diagnosis. At times, however, a collection of pus in the pelvis may escape detection, as in the following case. The patient, twenty-nine years old, mother of four children, was confined by a midwife, April 8th, 1888; labour easy. Eight days afterwards patient presented feverish symptoms; diarrhœa, inodorous white uterine discharge, no pain, no vomiting, temperature 104°. Uterus sub-involuted, cervix lacerated, with some tenderness on deep pressure over the fundus. Bimanually, no tumour found in broad ligament, nor in any part of the pelvic cavity, uterus freely moveable. Four days later uterus much smaller, tenderness gone, discharge ceased. Fever and diarrhœa continued, temperature from 100° to 103·5°. Marked wasting, anæmia and loss of appetite. Urine albuminous with a few granular casts. The patient remained much in this condition for the next three weeks, during which time nothing abnormal could be found either by bimanual or by rectal examination. Six weeks after labour albumen and casts disappeared from the urine and temperature reached normal. Ten days later she complained of stiffness and pain in the left groin. After the lapse of a fortnight, definite fluctuation showed itself in that region, but patient refused operation, and the abscess opened spontaneously on July 3rd, some twelve weeks after labour. The abscess discharged for a month, when patient made a perfect recovery. She was delivered of a healthy child in June, 1889, after normal labour. As Dr. Léon remarks, this case illustrates the occasional difficulty of diagnosis met with in these cases. It is unique, also, in its chronicity, its spontaneous cure, in the uncertainty of its seat of origin, and in the course or directions of the burrowing of the pus. The special deduction is that pelvic inflammation may result in an abscess, which, even early, may occupy a position out of reach by any ordinary examination. The original seat of the lesion was probably a localised cellulitis of one broad ligament.

ON THE TREATMENT OF SOME FORMS OF AMENORRHŒA.

By Dr. F. H. Davenport, M.D. (*Boston Med. and Surg. Journal*, April 16, 1891.)

This paper is a fairly concise statement of American views on the subject. Amenorrhœa is defined as merely a symptom of some pathological condition. A margin of two or three years should be allowed after the usual period for appearance in that country, from thirteen and-a-half to fourteen. After that time non-appearance might be considered abnormal, although that fact did not necessarily imply the need of treatment. If no general symptoms present, a patient is robust, with a good colour, and is well-developed, no treatment need be instituted, the assurance being given that in time the function will be established. If, however, the patient is evidently suffering from non-appearance, showing such symptoms, for instance, as periodical attacks of pain in the lower abdomen, leucorrhœa, painful swelling of the breasts, a disturbance of micturition, treatment is indicated. In most cases, general measures suffice without examination. If for some months there have been well-marked molimina, then a very slight examination will suffice to detect any atresia. If any doubt exist, the passage of a fine probe into the vagina can be effected without pain or the slightest violence to the hymenean ring. Iron is put in the first place in general treatment. Permanganate of potash and binoxide of manganese, have probably no direct action on the uterus or ovaries. Attention to general hygiene, food, exercise, &c., is of course important. Where these measures fail, the author recommends the use of electricity. He prefers faradism, and applies it by placing one electrode over the back and the other over the ovaries in turn, or over the uterus. As a uterine stimulant he holds it to be unrivalled. Where there is no objection one electrode can be placed against the cervix. Persistent amenorrhœa sometimes follows parturition, even though the mother does not nurse her child. Here the pathological condition seems to be super-involution, and Dr. Davenport has invariably found these cases associated with a small thin uterus. There is a direct relation between amenorrhœa and obesity, and treatment is aimed at reducing fat. Vicarious leucorrhœa accompanies some cases, especially after the menopause. The cessation of menstruation is not in all cases an evil. On the contrary, there are cases where its absence may be looked on as a conservative provision of nature to prevent unnecessary waste. In anæmic subjects, and in persons recovering from long and debilitating sickness, it would be unwise to institute active treatment for bringing the function into activity, unless the direct results of its cessation in the form of pain or disturbance of the circulation outweigh in importance the bad effects of the loss o blood.

FOUR CASES OF AMENORRHŒA SUCCESSFULLY TREATED BY GALVANISM.

By C. P. Strong, M.D. (*Boston Med. and Surg. Jour.*, April 16, 1891.)

This important paper describes the treatment of a

certain class of cases of amenorrhœa by galvanism, and was originally read before the Boston Society for Medical Observation. At the outset the author distinctly stated that the single subjective symptom of absence of menstrual flow had never seemed to him an indication for treatment. There is a type, however, in which medical treatment was simply useless. In these cases various subjective symptoms, especially disturbances of the vaso-motor system and other reflex phenomena are present. Physical explanation, such as displacement or other abnormality of the uterus or adnexa, is lacking. The patients are strong, healthy-looking women, not victims to anæmia or organic disease. When married they are sterile. The reflex nervous symptoms are akin to those of the menopause. Cephalic pains, inaptitude for their usual employments, depression, even melancholy, sleeplessness, and kindred disorders. Until the author employed the galvanic current he met with no success in the treatment of these cases. He can now always promise relief of subjective symptoms, even though he cannot always predict the certain induction of the catamenial flow. (Details of cases follow.) "The method of application has been the introduction of an intra-uterine electrode insulated to within an inch of its point, which is made of platinum, combined with a broad abdominal electrode made of zinc covered with cotton. The current in the first case was not measured, but in all the later cases varied from fourteen to forty milliampères, being carefully measured. The positive pole was abdominal, and applied alternately over each ovarian region for fifteen minutes. Immediately, and for about twenty-four hours after the application, there was a brown discharge from the uterus. Patients showed a marked difference with regard to their tolerance of the current. Occasionally very disagreeable crampy pains were produced, but otherwise no other ill effects were noted."

DYSTOCIA CAUSED BY FÆCAL MASSES.

By W. Scott, M.D. (*Cincinnati Medical Journal.*)

There is very fair reason for assuming that at least some of the frequently occurring cases of difficult labour which annoy and embarrass the general practitioner may be associated with the presence in the intestines of unsuspected fæcal accumulations, and the instances given by Dr. Scott are instructive in this connection. In the first, a primipara, everything progressed well until the second stage was reached, when the muscular fibres of the uterus were thrown into a tonic spasm, and the head of the child grasped as within a vice. Bromide of chloral and ether failed to relax the spasm; and on attempting to introduce the forceps, only one blade could be applied, owing to the uterine tension. Finally, delivery was effected with the aid of perforation. The case did well except that constant rectal distress was complained of, and on the third day the explanation of this was found in the presence in the rectum of a large fæcal tumour, which had descended under the influence of salines and enemata. The mass equalled half a gallon in bulk; and it was, undoubtedly, the cause of the dystocia which ended in the destruction of the life of the child. Two other examples of a similar nature are described, though in neither was the result so disastrous to the infant.

Pathology.

PURULENT ARTHRITIS FOLLOWING UPON PNEUMONIA.

By I. Picque & A. Veillon. (*Arch. de Méd. Exp. et d'Anat. Path.*, 1891, p. 68.)

The patient was a male of thirty-six years, who died of a suppurating arthritis of the right knee, which had developed on the fourth day of a pneumonia of the same side. The resolution of the pneumonia took place two months before death. The pus, collected carefully when the abscess was opened in the patient whilst still alive, was examined under the microscope, submitted to various methods of culture, and inoculated into animals. These procedures demonstrated the presence of the pneumococcus of Talamon-Fraenkel, without any admixture of ordinary microbes of suppuration, such as streptococci or staphylococci. The knee disease, therefore, in this case was a real pneumonic arthritis, such as has been described already by a certain number of writers. The unusual gravity of this arthritis is attributed to the previous alcoholic condition of the patient, and to the absence of early treatment, he having only presented himself at the hospital three days before his death and two months after the commencement of his disease.

LATERAL VERTEBRAL FISSURE.

By M. Jaboulay. (*Prov. Méd. Lyon*, 1891, p. 85.)

In spondyloschisis, the vertebra which is usually one of the last lumbar, the third (most commonly), the fourth, or the fifth, presents a fissure in the portion intermediate between the two articular apophyses. This fissure, which has sides covered with small blunt elevations, separates the body, with which are connected the pedicles, superior articular and transverse processes, from the rest of the arch, that is to say, from the inferior articular processes, the laminæ and the spinous process This separation is not rare, for Neugebaur was able to collect one hundred and ten cases of it, and the author adds four. There are various views as to its pathogeny. Faraboeuf believed it to be due to arrest of development, causing failure of ossification, but the author rejects this hypothesis, since, if it were the cause, there would also be narrowing of the canal, which is not the case, the latter being perfectly normal in the specimens which are in his possession. The position of the solution of continuity, at the point of least resistance of the superjacent vertebra, seems to be in favour of a fracture of traumatic origin, which is incontestable in some cases (Neugebaur). But frequently the traumatic nature is wanting, and the author prefers to agree with Arbuthnot Lane that the effect is produced by the pressure of the super-jacent inferior articular process, which is at its maximum at the level of the last lumbar vertebræ. Union is prevented by the interposition of the superjacent inferior articular process, and by the movements caused by the muscles in the posterior segment. Bilateral spondyloschisis may become, as the result of an injury, the cause of a gliding forward of the spine into the pelvis, in front of the sacrum, spondyloliothesis, a condition the pathogeny of which has long been obscure.

ETIOLOGY OF SUPPURATING TONSILLITIS.

By C. C. Rice. (*N. Y. Med. Rec.*, Jan. 1891.)

(1) The tonsils, like other lymphoid tissues, are glands whose function it is to elaborate the blood. (2) When they are in a normal condition, they probably have a second function, on account of the great number of leucocytes which they contain, and this function has the power of preventing the entry of pathogenic germs by the crypts of the tonsil. (3) When the tonsils have ceased to exercise their functions on account of some pathological condition, such as interstitial swelling and the occlusion of the lacunæ of the glands, they probably present open paths by which pathogenic germs may pass into the lymphatic circulation. (4) All forms of tonsillar inflammation are due to septic causes, or in other words to specific germs, and the germs which cause the follicular, parenchymatous diseases or peritonsillitic abscesses are different from one another. (5) It is consequently believed that septic influences are the stimulating cause of inflammation of the tonsils, and that the presence of pathological tonsils, incapable of exercising their normal functions, is the principal predisposing cause. (6) A classification of tonsillar diseases into three classes is sufficient, viz., follicular, parenchymatous and peritonsillar abscesses. (7) The term suppurating tonsillitis is not a correct one, for the suppuration takes place in the connective tissue around the tonsils, and very rarely in the organs themselves. (8) In persons predisposed to suppuration around the tonsils we find the tonsils either adherent to or covered by the pillars of fauces; and this condition plays a much more important *rôle* in predisposing to the malady, than rheumatism or any other diathesis. (9) When a tonsil has a tendency to inflammation, it is the seat of pathological trouble, and should be destroyed by the galvano-cautery, or by some other means.

CASE OF DIAPHRAGMATIC HERNIA.

By Dr. Olmstead. (*Canadian Practitioner*, March 16, 1891.)

At a meeting of the Toronto Pathological Society Dr. Olmstead, of Hamilton, showed a specimen of diaphragmatic hernia, with the following remarkable history. In June, 1881, the patient was marking at a rifle range. By mistake he went out to examine the target without putting up the danger signal, with the result that a bullet from nine hundred yards' distance pierced his body and scored a bullseye. He felt a stinging sensation at the moment, but did not know he was shot until he saw blood on the target. He then turned and ran towards the shooters, shouting like a madman, and fell after he had run about three hundred yards. When assistance arrived the patient was very much frightened and vomited a small quantity of blood. There was a wound in left side of thorax between the seventh and eighth ribs two inches to left of spine, and another (wound of exit) between the fifth and sixth ribs in the mammary line. After the accident he had an attack of pneumonia, but was quite well in about two weeks. Nothing more was heard of him till March 14, 1890, when he walked into the hospital, and said he was suffering from constipation. He was very reticent, and hence little or no history of his case was taken. Shortly afterwards he developed peritonitis and died in a couple of days. *Post-mortem.—Abdomen:* contained about 500 CC. of reddish fluid; intestines distended and glued to abdominal wall, adherent part semi-gangrenous. Ascending colon very much distended and round to pass through an opening in the left leaflet of the central tendon of the diaphragm. The descending colon emerged from this opening, and was contracted. *Thorax:* left side contained 150 CC. of reddish fluid; lung pushed up to third rib and contracted. Lower part of cavity filled with a mass of colon. The opening in the diaphragm corresponded to the fifth and sixth ribs. At the anterior and posterior part of the hernia were two condensed masses of fat and omental tissue, while a thin layer of omentum covered the gut. Around the opening in the diaphragm was a strong constricting band formed from old inflammatory deposits, also some recent lymph. The omentum was bound to the upper surface of the diaphragm, and the walls of the intestine to its under surface. The hernia contained hard fæces. The gut was gangrenous and completely obstructed at exit from diaphragm. It was evident from the appearance of the hernia that it had existed for years, although there was no history of the patient having suffered, except occasionally, from shortness of breath. The heart was displaced to the right. The calibre of the bullet was 44 Remington.

HUMAN SPONTANEOUS COMBUSTION.

By Ernest S. Reynolds, M.D. (*Medical Chronicle*, April, 1891.)

The subject in this case was a woman, aged thirty-five, who for two years past had been almost constantly drunk. She had fallen, in a fit of inebriety, on to the floor in front of a low fire, the heat from which apparently ignited her clothing, and led to the commencement of the burning process in her body, this being subsequently maintained spontaneously. This view of the case was sustained by the fact that surrounding articles of an easily inflammable nature were uninjured by the fire, the stockings and boots of the victim also being unconsumed, and the hair and back of the head untouched. The back was well scorched, and the arms, particularly in the upper parts, were burnt and blistered, but not blackened, and the face was crimson from the fire though unblistered. The front of the body from the top of the sternum to an inch below the knee was badly burnt. The skin and subcutaneous tissue of the chest was brown-black and leathery, like the skin of smoked bacon. The abdominal wall was completely charred, and a large hole about eight inches long in its middle line gave exit to the stomach and most of the small intestines, the organs being cooked into a hard dry mass. There was an aperture in the stomach through which a portion of the contents had made their escape on to the hearth. The vulva and upper parts of the thighs were burnt very much, the depth of injury becoming greater as the middle of the thigh was approached, the femora being exposed and completely carbonised. The pelvic organs were normal, but the liver and abdominal muscles remaining were practically baked. Dr. Reynolds considers the various explanations that have been advanced to account for the cases of spontaneous combustion which have been recorded in the past, some few of which he regards as having a claim to be so regarded. He cites the testimony of Superintendent Tozer, of the Manchester Fire Brigade, to the effect that human bodies will, under certain

conditions, continue to burn spontaneously when once ignited by flames. While admitting the favouring influence of alcoholism in this connection, he suggests that long indulgence in drinking habits may lead to the deposit of a material in the tissues by the presence of which they are rendered highly inflammable.

MULTIPLE SARCOMATA IN AN INFANT.

By F. A. Packard, M.D. (*University Medical Magazine*, April, 1891.)

This was an unusual case of multiple sarcomata in a child two months old when the tumour formations were first observed in the skin. It ultimately died from asphyxia in an emaciated condition at the age of eight months. *Post-mortem*:—A hard, firm mass of tumour growth was discovered on either side, in the posterior mediastinum, the whole being about the size of a large halved orange, and having a lobulated form. The lungs were collapsed, and on microscopic examination were seen to be invaded by the tumour cells, which in some places projected as polypoid masses into the alveolar spaces. The suprarenal capsules were much enlarged by the same kind of new growth, and the liver was the seat of considerable changes of structure. The greater size of the mass in the mediastinum, associated as this was with more degenerative changes than were seen in any other of the affected organs, was held to indicate that this had been the primary seat of disease; and the rarity of the case principally lies in the occurrence of a sensible tumour in this situation in so very young a subject. It is pointed out by Dr. Packard that only a single instance of mediastinal tumour in a child less than one year old has been hitherto reported, and the number observed under five years of age is exceedingly small. The secondary growth in the suprarenal capsules is also an interesting factor in this case, metastasis to these organs after primary mediastinal sarcoma being a phenomenon not previously recorded. As an explanation of the conditions he describes, Dr. Packard suggests the whole cell organization of the child may have been at fault, and that the nodules being so profusely scattered through the body, they may all, instead of owing their origin to a primary tumour development, have been the outcome of such perverted formation. In the direction of treatment he thinks arsenic might possibly be of service.

Bacteriology.

A NEW PATHOGENIC BACILLUS FOUND IN THE DUST OF THE FLOOR.

Dr. Okada, of Tokio, in the *Centralblatt f. Bacteriologie* for Aprll 7th (Vol. IX., No. 13, 1891), gives a very careful account of some experiments made in the Hygien Institute, of the Berlin University, by means of which he has succeeded in isolating a specific bacillus from the dust obtained from between the boards of the floor, which shows a very marked toxic effect when injected into animals. These experiments are sufficiently important to justify more than a mere mention. The bacillus, when procured in pure cultures is found to grow well on gelatin, at the room temperature, after two or three days, small white, rounded punctiform colonies appear very like those of the typhoid-bacillus, and also like the bacillus of Emmerich. Each little colony, when slightly magnified, and with transmitted light is bright, and brownish in colour, with rounded, slightly serrated edges. The interior is distinctly granular, particularly in old cultures. After a few days, when the colonies are larger, the growing edge shows a modular heaping upon the gelatin. In stab-cultures, the line of the stab appears in a day or so as a white thread, after a time the surface also shows a growth which has a tendency to spread but never reaches the walls of the test-tube containing the nutrient substance; in strake-cultures it forms beautifully white raised colonies, which spread, but never form the thread-like growths into the substance of the gelatin, as do the bacilli both of Brieger and Emmerich. There is no liquifaction or clouding of the gelatin. The bacillus grows well on Agar-Agar, blood-serum, and in bouillon. When examined under the microscope, both in pure cultures and also in the organs and tissues of the animals in which the organisms have been injected, the bacilli are seen to be short, with rounded ends, about twice as long as broad, almost as long as the bacillus murisepticus, but rather thicker; sometimes in pairs, but more often singly. In old cultures, a great tendency to the formation of threads. The bacilli stain well with anilin colours, and also by Gram's method, non-motile. Spore formation not constant. Experiments made upon four rabbits, five guinea-pigs, and sixteen mice, show that a few hours after injection the animals become languid and feeble, and remain so until their death, about twenty to twenty-four hours after inoculation. The *post-mortem* appearances are marked, *viz.*, great swelling of the lymphatic glands, sub-cutaneous œdema, capillary injection of the sub-cutaneous and mes-enteric vessels, great enlargement of the spleen, and a special greyish-red staining of the lungs. The bacilli were demonstrated in all the organs and tissues of the experimental animals, in large masses or in heaps. The author concludes his remarks by showing that although the bacillus, which he has isolated, resembles those of Emmerich and Brieger, yet it differs in several important respects, and particularly in not growing well upon potatoes. It also differs from the "capsule" bacillus of Pfeiffer in that the colonies are smaller.

ACTION OF CERTAIN ANILINE COLOURS ON THE DEVELOPMENT AND VIRULENCE OF CERTAIN MICROBES.

By J. Eraud and L. Hugounenz. (*Lyon Médical*, April 5, 1891.)

It is well known in bacteriology that microbes have a very great affinity for the basic aniline colours; this knowledge suggested the idea of utilising them in therapeutics. Stilling was the first to make use of this knowledge in ophthalmic practice. He came to the conclusion that two substances—pyoctanine and auramiue—were of real value as antiseptics. Then came the observations of Carl, Gräfe, aud Braunschweig, who were unable to recognise any advantage in the use of these drugs; they found them even harmful producing symptoms of congestion and irritation of different parts of the eye. On the other hand Jänicke, relying on his own experiments, declared that they had a very real value, especially in relation to the microbe of suppuration, the staphylococcus pyogenes aureus.

Many other observations have been recently made, but there has been as yet no unanimous agrrement as to the value or otherwise of the aniline colours. It would seem, however, that variations in the technique of their employment may in great measure explain the different results obtained. That they have a real antiseptic value cannot now be doubted and it seems at any rate premature to banish them from the list of possibly useful drugs. The present authors have instituted researches both clinical and bacteriological on the germicidal value of a large number of aniline colours. Their results show that two at least, methylene blue and saffranine, have an undoubted value, especially as regards the pyogenic microbes. When the action of the drug is exercised in weak solution, for a short time only, their virulence is attenuated, without their vitality being destroyed. But if, on the contrary, the contact of the microbe with the colouring matter be prolonged, and if the solution be concentrated, not only is the virulence, but also the vitality of the organism affected. This fact would perhaps explain the variations in the results obtained by different workers. The authors believe that by employing the drugs continuously, and in sufficiently strong solutions, real therapeutic advantages may be derived. Thus, in certain affections, such as sycosis, anthrase, chancroids, the solutions of these substances act better and more rapidly in proportion as the applications are more frequently renewed. Especially does this deserve notice in blenorrhagia. In this affection, with solutions 1·200 to 1·500, making ten or fifteen injections daily, truly remarkable effects are obtained, whilst with more dilute solutions, and with injections repeated only twice or thrice daily according to the usual plan, very little effect is observed either on the duration or the character of the discharge.

TREATMENT OF TUBERCULAR DISEASE OF THE KNEE (WHITE SWELLING) BY RESECTION.)

By Dr. M. Christovitch (of Salonica). (*Bull. Gen. de Thérap*, March 30 and April 15, 1891.)

Resection of the knee, till about fifteen years ago, was a very grave operation and the unanimous opinion of surgeons of that epoch was against that operation and in favour of amputation of the thigh. Since the discovery of the antiseptic method, however, and the improvements in technique whereby we are able to obtain comple healing without any renewal of the dressings, resection of the knee has become a classical operation, a piece of conservative surgery which every surgeon should perform, before even thinking of amputating at the thigh.

"White swelling," as it is generally called, is in the majority of cases a tubercular affection. We can nearly always demonstrate the existence of a local tuberculosis. Tubercular arthritis is a much better name for the disease.

The mortality before the introduction of antisepsis, was very great, but according to recent statistics, the death-rate from this operation is not more than three per cent. This proves the innocence of the operation. The complete resection of the joint may be practised at all ages, even in patients of 63 or 70 years. In children the operation will be highly successful if care be taken to remove only the superficial osseous layers.

Arthrotomy, synovectomy, and osteo-arthrectomy all yield results inferior to those of complete resection. None of them yield such a firm and reliable ankylosis.

Subsequent shortening of the resected limb is a consequence of the arrest in osseous development in consequence of lesion of the epiphysial cartilage, which plays the chief part in the growth of the osseous extremities up to the age of twenty-four years. Any wounding, whether pathological or surgical, of this cartilage will necessarily, therefore, cause the ultimate shortening of the limb with simultaneous atrophy. But resection carefully performed should leave the cartilage intact, and then no shortening will occur. Sometimes even the contrary may be observed, the operation having apparently irritated the cartilage and increased the activity of its functions. Consequently, a carefully performed complete resection is not contra-indicated in children suffering from osteo-arthritis, and if, after resection, shortening ultimately occurs, this will be rather the consequence of the disease itself, which has involved the cartilage and caused the atrophy of the limb. A careful examination of the limb before operation should, however, show whether ultimate shortening will be likely to occur.

An ideal resection should be such that the wound heals under a single dressing and without drainage. After the operation the patients should wear for some years a knee-cap of silicate of potash to support the joint and to prevent any chance of flexion.

Resection should be performed early, in order to prevent extensive local mischief, such as atrophy of the limb, and other annoying complications, which might even lead to a general tubercular infection.

Such are the main points of this paper, which sets forth fully the views of the active school of surgeons to which M. Christovitch belongs.

AN APPLICATION OF AGAR-PLATE CULTURE TO WATER ANALYSIS, WITH SPECIAL REFERENCE TO THE DETECTION OF THE BACILLUS OF ENTERIC FEVER.

(*Boston Med. and Surg. Journal*, April 23, 1891.)

This important paper records some researches made in the Lawrence Experiment Station of the State Board of Health of Massachusetts. Temperature largely governs the rate of growth of bacteria from waters cultivated by Koch's gelatine-plate process. As a rule, the common forms of bacteria found in unpolluted waters grow best at a temperature of 15° to 20° C. The same rule, however, does not apply to the parasitic forms, which belong to another class of bacteria, that are habituated to the bodies of warm-blooded animals. Although the latter class will usually grow more or less at lower temperatures, yet the one most suitable to their requirements is blood-heat. What happens, then, if in a gelatine-plate containing bacteria of both these classes, as river water polluted with typhoid germs, when cultivated at an ordinary temperature? Most of the common species being well suited to this temperature grow rapidly in large colonies, while the pathogenic germs are retarded in their growth by being placed in a medium nearly 20° below their normal. The common germs, moreover, grow vigorously and cover the plate, especially if they liquify the gelatine, before the pathogenic germs have time to form colonies large enough to be recognised. The authors of these experiments, from the above considerations, were led

to conclude that if the plates could be kept at blood-heat, the conditions would be reversed, and the pathogenic germs would flourish, while the common germs would be retarded. Unfortunately, gelatine melts far below that temperature. "Agar, when made up with bouillon according to Koch's formula, in two per cent. solution, melts at about 90° C., and can be kept indefinitely at blood-heat without softening. It is, of course, inadmissible to mix the water to be examined with melted agar at 90°, or even 50° C., because even this temperature might kill a portion of the bacteria, but if the agar is thoroughly melted in boiling water, and then suddenly plunged into water at 40° C., it can be cooled to this temperature without instantly solidifying. While the agar is in this condition, fluid, and yet cool enough for safety, the water to be examined is quickly mixed with it, and the whole poured out on a glass plate, when it almost instantly solidifies. There is ample time to perform this operation, but there must be no delay, for the agar will not long remain liquid." In using the Petri double dishes moisture often collects on the cover and falls back into the agar, modifying the growth. This can be prevented by turning the dishes upside down. The authors have applied this method very successfully to the isolation of typhoid germs from inoculated river water. The agar plate sometimes presented, after twelve hours' incubation, an almost pure culture. Using fæces from a typhoid patient, the specific germs were often detected when the gelatine plates failed to shew them, though in this case the plate also contained *bacillus coli commune* and others from the intestines. It is probably in this direction that the method has its greatest practical outlook, as an improved and rapid method for detecting pathogenic germs in drinking water, in fæces, etc. Agar-plate cultivation at body-heat selects the pathogenic and harmful bacteria, while it eliminates those that cannot grow at the temperature of the body, and which are, therefore, presumably harmless.

Syphilography.

THE RESULTS OF EXCISION OF SYPHILITIC CHANCRE.

By Dr. Jullien.
(*L'Union Médicale*, March 5, 1891.)

The author has, during the last ten years, practised the removal of the primary sore in eighteen cases of syphilis. The method consisted in a careful excision not only of the sore, but of its indurated margin, the edges of the wound being afterwards sutured, and dressed antiseptically. He concludes that the operation is not always useless; but, if undertaken, it must be performed before any glandular mischief has declared itself. As great care must be taken in its removal as if it were a malignant growth; but, however large be the loss of substance thus produced, this never causes the patient such prolonged care as the least syphiloma in course of evolution. The author hopes in the future to be able to formulate a treatment which will falsify the old remark, "that syphilis once recognized, the physician has only to fold his arms and await the general infection of the organism." It is difficult, however, to share the writer's enthusiasm as regards the results of the treatment by extirpation.

Laryngology and Otology.

THE TREATMENT OF DIPHTHERITIC LARYNGITIS.

By Dr. A. Jacobi. (*Archives of Pediatrics*, April, 1891.)

In the course of a paper on the Therapeutics of Infancy and Childhood, Dr. A. Jacobi makes some practical remarks on the treatment of diphtheritic croup. He has never seen the beneficial effects attributed so universally to emetics. He considers they are of no use, except perhaps where a flapping sound betrays the presence of half-detached membrane in the air-passages. He has seen no good from massage of the larynx in the few cases he has tried it. Neither has he seen success attending the local use of lactic acid in more or less saturated solution, which has been eulogized as a solvent of the membranes in the larynx when applied frequently by brush or spray. A spray of lime-water is used by many, but lime slaked in a small room, or under a tent, is decidedly more effective, for during that process a quantity of lime is carried up and inhaled; and at the same time the softening and solvent effect of the steam is obtained. The external application of cold water or ice-bags to the neck are more beneficient than the inhalation of steam, but they are not tolerated in most cases of anæmic and highly nervous children.

As for internal remedies diaphoretics, expectorants, and an occasional opiate may often be prescribed. The continuation of chlorate of potassium after the invasion of the larynx is complete, is rather superfluous. Pilocarpin injures by debilitating the patient. Mercurials have resulted in more actual recoveries than any other internal treatment. The cyanide and iodide have been recommended. For ten years Jacobi has employed the bichloride in doses of one-sixtieth grain or more every hour. The smallest babies take one-fourth or one-third of a grain daily, for days in succession. Almost never will a stomatitis follow, and no gastric or intestinal irritation, provided the dilution be in the proportion of at least one in eight thousand. An occasional slight diarrhœa may require the addition of a few drops of paregoric. He repeats a statement he formerly made, that never has he seen cases of croup getting well in such numbers either without or with tracheotomy, or intubation, as with mercurial treatment. When this treatment proves unsuccessful, and indications are present for operative procedure, intubation or tracheotomy must be performed. With regard to the comparative merits of the two operations, Dr. Jacobi states that for years he has not seen a case in which intubation would not take the place of tracheotomy, and he has not, therefore, performed the latter operation for some years. Intubation is not one of those temporary devices which are brought out to be instantly forgotten. In most cases it takes the place of tracheotomy, in none does it make the latter operation impossible if it should seem to be required.

For striking a patient suffering from delirium tremens who spat upon her, a nurse in New York has just been sentenced to two years and eight months' imprisonment. "This is a terribly severe sentence (says the *Medical Press*) for such an offence, and hope the profession on the other side will agitate for its re-consideration, as no injury appears to have been done the patient."

Ophthalmology.

TREATMENT OF PURULENT OPHTHALMIA.

Rev. Gén. de Clin. et de Thérap., April 15, 1891.

The treatment of this affection must vary according to the period of the disease. It will be best to divide it as follows:—1. *Period of Commencement.*—The secretion is transparent; no caustics must be used, only simple antiseptic measures such as irrigation with boric lotion, or application to the eyelids of compresses soaked in a cold solution of sublimate (1:000). If there be much swelling of the lids, it is better to use a solution of naphthol (1:500) instead. 2. *Period of full Development.*—The secretion is purulent; cauterization and antisepsis are indicated. The cauterizations should be repeated twice daily, and should be performed by using either a 5 per cent. solution of $AgNO_3$, applying it with a soft brush, or else solid mitigated silver nitrate. The eyes must afterwards be washed with saline solution. For antiseptic irrigations, use solutions of naphthol, boric acid, or sublimate, applying compresses to the eyes in the intervals. If there be chemosis, apply blisters, and scarification. If a corneal ulcer appear, use applications of iodoform ointment. 3. *Period of Defervescence.*—Characterised by diminution of suppuration and palpebral swelling. Continue applying $AgNO_3$, but usuually weaker solutions, from ½ to 1 per cent. should suffice. Continue also the irrigation and compresses. Should the suppuration be slow in ceasing, use opium irrigations (1:10,000, Ext. opii, in water), which will diminish pus-formation; twice daily a few drops of 1 per cent. $AgNO_3$, containing a small quantity of tinct. opii may be instilled between the lids.

THE PERFECTED PRISMOMETER.

By Mr. G. C. Prentice. (*Archiv. of Ophthal.* 1891, p. 109.)

Anything that Mr. Prentice writes on the subject of practical optics will always be read with interest by the profession. The present article contains much which, although probably familiar to those who make lenses, will cause some surprise and much uneasiness to those who prescribe them. It appears that the mode of manufacturing prisms is such that glasses ground together, and supposed to have the same angle, differ widely, and not only so, but opticians have hitherto had no reliable and sufficiently simple means of testing the strength of prisms. The object of the present paper is to describe an instrument invented by the writer for this latter purpose, and to endeavour to introduce a metrical system of numeration.

The method of grinding prisms appears to be somewhat crude. Separate slabs of glass are fixed by means of a resinous substance upon a metallic surface-tool, and are then ground together. It seems that the layer of fixing material is never quite uniform, that it becomes heated by the friction and yields with the result that prisms made by the most careful opticians, and supposed to be of uniform strength, vary greatly. Thus, out of 180 prisms, the author found only seven which were absolutely correct, and only thirty-three in which the error did not exceed 0·4 of a "prism-dioptre"—a term to be explained presently.

The author states that "it would be exceedingly difficult, and correspondingly expensive, to manufacture prisms producing only fixed angles of deviation." We would not have thought that the mechanical difficulties would have been great, but on a matter of this kind Mr. Prentice is an authority. The best course, therefore, appears to be to continue the manufacture as at present, and as prisms of every strength are produced thus, to measure and number them according to any system agreed upon.

This, hitherto, has presented difficulties; "the necessary apparatus (for measuring the *minimum* direction) is expensive, requires a degree of accuracy in manipulation, and a knowledge of reading verniers which cannot readily be made familiar to opticians."

If Mr. Prentice is correct, and we have no doubt that he is, it would appear that the prisms in our trial cases have been selected more or less haphazard.

The foregoing remarks as to the difficulty of measuring the strength of prisms apply to the *minimum* deviation which they cause, *i.e.*, the deviation produced when the entering and emerging ray are symmetrical with regard to the respective faces of the prisms; this has always been taken as the basis on which prisms are numbered, but both in trial lenses and in spectacles one face of the prism is more commonly perpendicular to the visual axis, so that the deviation produced exceeds the *minimum*. The apparatus, which is described in detail, is constructed to measure rapidly and accurately the deviation produced by a prism under these latter conditions, the results being expressed in "prism-dioptic"—a unit of measurement, which the author thinks should be substituted for those at present in use. We do not propose to consider the construction of the prismometer, but the proposed system of numeration must engage our attention for a short space. Briefly the "prism-dioptic" is the linear displacement which the refracted ray undergoes at the distance of a metre lens when it impinges on a 40 D lens parallel to, but 1 cm. from, its principal axis; with a lens of 2 D the displacement at the same distance would be doubled or 2 P-D. This method reduces the numeration of prisms to a system which corresponds with the metrical system of numbering lenses, and has the advantage of simplicity, since the deviation produced is in the proportion of 1 to 100. The difficulty of getting it introduced will be that there are so many rival claimants; thus we have the old system of numbering according to the angle of the prism, but as the refractive index of the glass may vary, this gives no accurate indication of the strength of the prism; then we have the numbering according to minimum deviation produced, which has an appearance of accuracy, but is probably usually arrived at by halving the angle of the prism; finally, we have the proposal to number in metre-angles, a method which sounds scientific, but can never be accurate, as the intra-ocular distance varies.

Toxicology & Medical Jurisprudence.

PROPHYLAXIS OF LEAD-POISONING.

(*The Therapeutic Gazette*, p. 214.)

M. Lavrand, in the *Journal des Sciences Médicales de Lille*, states that the administration of iodide of iron pills, either alone or associated with phosphide of zinc, is very useful as a curative measure in the plumbism of white-lead workers. All the patients

had the marked sallowness of complexion, so distinctive of saturnism in its early stage. The author found that under this treatment, even though the patients remained at their work, that the general health improved, and the amount of hæmoglobin increased.

POISONING FROM THE EXTERNAL USE OF TOBACCO.

By M. Auché.

This observation is analogous to several cases which have lately been described by M. Rougon, of poisoning by tobacco-lotions. A man, in order to rid himself of pediculi pubis, rubbed himself with a decoction of tobacco. The following phenomena soon appeared :— Vertigo, nausea, obscurity of vision, cold sweats, and a kind of drunkenness. There was a little pupillary dilatation, diminution of acuity of hearing, retching, sensation of constriction of the thorax, slow pulse, weakening of heart-beats, a syncopal condition, tremors in the limbs, but maintenance of the reflexes and of sensation. Later on there was frequent desire to micturate. These symptoms disappeared after administration of a stimulating draught and black coffee. There can be no doubt that they were due to the tobacco, and the case is, therefore, one to remember when tempted to employ tobacco in therapeutics.

Reviews.

The Proclivity of Women to Cancerous Diseases and to Benign Tumours. By Herbert Snow, M.D. Lond. Surgeon to the Cancer Hospital, Brompton, etc. London : J. and A. Churchill. 1891. Pp. 58.

This little work, dedicated to Mr. Lawson Tait, treats of weighty matter, and includes an appendix on heredity as a cause of cancer. The title of this book reminds us of the treatise on the snakes of Ireland, written to show that none existed, for Dr. Snow has gone as far as statistics can go to show that heredity is not a cause of cancer. To recur to the main part of the book, the author puts forward as a problem the preponderance of cancer in women as compared with men, and answers it by saying that, apart from the fact that women possess special-richly cellular organs incessantly undergoing peculiar phenomena, the variety of cancer from which they chiefly suffer is found to be most frequently generated by trouble of mind, and to be so far of *neurotic* origin, the female being also by far the more neurotic and emotional of the two sexes. The reader here has the idea that Dr. Snow wishes to show in some way how cancer is an accompaniment of advancing civilization. But we are told at the same time that cancer is always of local origin, also that even stays, which are responsible for many innocent tumours, may indirectly favour cancer by predisposing to chronic ill-health, as is undoubtedly the case. And the author concludes, " Aim at removing the causes which among us so conspicuously impede the female sexual organs in the due performance of their allotted functions. . . . " But these causes, hardly touched upon here, lie deep in our social organization, and have never yet been clearly brought to light. Nevertheless, Dr. Snow's work deserves a careful perusal, which will be found a pleasant task owing to the lucid development of each argument, as far as it goes.

Dr. Barry's Interim Report to the Local Government Board on an Epidemic Prevalence of Enteric Fever in several Towns situate in the Valley of the River Tees in South Durham and North Yorkshire.

This Report comes at a most opportune time, dealing as it does with the prevalence of enteric fever in a population largely supplied with a river water filtered through gravel and sand—the same filtering media as are used by the London Water Companies for the purification of the water supplied for the use of the inhabitants of the largest and most wealthy city in the world.

In the area of inquiry, which includes a large number of urban and rural sanitary authorities, more than 570 cases of enteric fever were reported during the four weeks ending the 4th of October last, which cases occurred in 550 houses. Within this area there are 41,000 houses obtaining their water supply from the River Tees, and some 56,000 houses supplied from other sources. Of the 41,000 houses, about 12 per 1,000 were attacked with enteric fever during the before-mentioned period, and less than 1 per 1,000 in the 56,000. There were no other conditions common to the district affected likely to cause enteric fever. The River Tees, above the " intake " of the water, was therefore examined, it was found that it received the drainage of villages and hamlets upon its banks, and on the banks of its tributaries. In particular it was noticed that the town of Barnard Castle—a town of 5,000 or 6,000 inhabitants—finds the River Tees a convenient means of getting rid of its sewage and refuse generally. Much of this refuse is deposited on the foreshore, which varies in depth from ten to forty feet, and is only covered with water when the river is in a state of flood, when it washes away in its course the " mass of stinking abominations which have to be seen and smelt to be appreciated." This main is seventeen miles distant from the intake, but there are other water-courses which in times of flood send into the the Tees a large amount of black excrement, sodden filth, etc., some nearer and some more remote than that of Barnard Castle. From the river so polluted the water authorities supplying this large number (41,000) of houses obtain their supply, doing nothing more than filtering it through gravel and sand in order to remove its impurities. That this is not sufficient is clearly shown by chemical analysis, and is still more evidently demonstrated by the epidemic of typhoid fever, which has resulted by drinking the water.

No specific infection has been traced to the river, but Dr. Barry points out that several of the towns and villages above the " intake " have large floating populations during the summer months, and that there is a constant stream of tramps passing through the district.

Dr. Barry's concludes his interim Report by stating that he, for the present, advises all the Tees water to be boiled before using for domestic purposes. It is to be hoped that Dr. Barry will be given time to produce his full report at no distant date. The investigation is a most important one for the country at large, and especially for Londoners, who drink water treated in a similar manner to that which has caused this large outbreak of disease.

On May 13th an address, signed by over 300 past and present students of the Birmingham School of Medicine, was presented to Sir Walter Foster on the occasion of his resignation of the office of physician to the General Hospital. The presentation was made by Mr. Jordan Lloyd.

New Articles.

A NEW ELECTRODE.

THOSE who take an interest in the therapeutical applications of electricity will probably welcome the opportunity of trying a new electrode which presents several noteworthy advantages over those of carbon, sponge, and clay. The new electrode is soft and agreeable to the touch; adhesive, but not uncomfortably so, and it remains pliable and soft indefinitely. Partly on account of its mechanical properties, and partly also on account of its specially contrived conductivity, it secures an equable distribution of the current, thus avoiding the disagreeable local effects which often follow the use of other electrodes with currents of some intensity. Sponges, as we know, conduct the current in varying degrees, the effects being concentrated on the spots where there is most moisture,—hence one witnesses blistering and pain. Clay electrodes are both troublesome to manipulate and are dirty. The "adhesive electrode," on the other hand, is clean and pleasant to use. They are manufactured in all sizes, the usual measurement being 3 by 4 inches, by Messrs. H. Nehmer & Co., 40, Berners Street, W.

THE PRACTITIONER'S BACTERIOLOGICAL CABINET.

MR. C. BAKER, of 244, High Holborn, has brought out a very compact and convenient little case containing all that is requisite and necessary for staining and mounting specimens of tissues in which the presence of the tubercle bacillus is suspected. Something of this kind is certainly a desideratum, for many practitioners will be glad to have at hand the means of confirming their diagnosis in early or obscure cases. The collapse of Koch's method of treatment does not in any way attenuate the importance of the information afforded by this department of bacteriological research, and the process is so simple and easy to carry out as not to be beyond the reach of even the busy practitioner. The box (8 by 6 by 4) contains an adequate supply of covers, glasses, and shades, materials for double staining, and balsam for mounting. Specific directions are pasted on the lid, which we have tested and found to yield perfectly satisfactory results.

Patents.

[*This list is specially compiled for the* LONDON MEDICAL RECORDER by Messrs. RAYNER & CASSELL, *Patent Agents, of* 37, *Chancery Lane, London, E.C.*]

5,994. Improvements in electro inhalers. FRANCOIS EDMOND SAVARY D'ODIARDI, 54, Fleet Street, London. April 7.

6,363. Improvements in, and relating to, invalid beds or bedsteads. THOMAS LEIRNER KETTON RUTLAND. April 14.

6,531. An improved portable operating table for surgical and analogous purposes. ARTHUR WORMULL, 11, Furnival Street, London. April 16.

6,654. Improvements in truss and other surgical pads. JAMES ARNOLD, 33, Chancery Lane, London. April 17.

7,030. An improved surgical appliance for rectifying and preventing unduly protruding ears. AUSTIN O. HALLERON, 20, High Holborn, London. April 28.

7,044. Improvements in dental and other chairs. THOMAS HARRY GARDENER and EDWARD GARDENER, 24, Southampton Buildings, London. April 23.

7,065. A medicine for human use. HENRY BEDNALL, 78, Fleet Street, London. April 24.

7,242. Electrically charged pills. HENRY BALE, 242, Barking Road, London. April 27.

7,247. Adjustable belt for the prevention of imperfect or abnormal growth of the human body. CARL ROBERT PETER KLEM, 166, Fleet Street, London. April 27.

7,351. A new or improved medical appliance for the cure of disease by massage. HENRY CHARLES BRAUN and ARTHUR FORD LLOYD, 9, South Street, Moorgate, London. April 28.

SPECIFICATIONS PUBLISHED.

2,539. EGGINGTON. Surgical trusses. 1891. 7d.
6,733. BREWSTER. Artificial teeth. 1890. 9d.
8,401. GRAVELY. Surgical splints. 1890. 7d.
3,123. TATE. Self-closing faucet. 1891. 7d.

The above specifications may be had of Messrs. Rayner & Cassell, Patent Agents, 37, Chancery Lane, London, W.C., at the prices quoted.

[Should any of our readers desire to take out patents for inventions, either English or Foreign, and require advice upon the subject, the "Patent" Editor will be pleased to give them the benefit of his knowledge and experience. Communications addressed to the "Patent" Editor, *Medical Recorder*, 13, Waterloo Place, Regent St., S.W., will receive prompt attention.]

Miscellany.

PROFESSOR TARNIER, the celebrated French obstetrician, has given a practical expression to his grief at the diminishing natality of his race, and has promised 100 francs to every family at Arc-sur-Fille, the village had the honour of giving him birth, which shall have contributed an infant to the population of France during the year 1892. This is a novel way of inducing married people to fulfil their *role* in nature, but they cannot complain of not having having had sufficient notice.

A TRIFLE PREMATURE.—It seems to have been rather too hastily announced that the Austrian Government had authorised lady doctors to occupy higher posts in the general hospitals. As a matter of fact, one lady doctor has been admitted to practice in a hospital at Serajevo, in Bosnia. This has been done by way of experiment, but so far the results are reported not to have been very promising, the Mussalman patients resenting the presence of the lady. Possibly, however, these patients may soon acquire that degree of indifference which horses have long since manifested for the one-time bogie bicycle.

MR. PERCY FORBES WINSLOW, eldest grandson of the late Dr. Forbes Winslow, has just died at the age of twenty-two, under very painful circumstances. Mr. Winslow had recently completed his medical education, but was still pursuing his studies at Charing Cross Hospital, where he contracted blood-poisoning. The illness was at first very obscure, and after undergoing four operations under chloroform he sank from exhaustion.

A FEW days ago a patient suffering from typhus fever escaped from Stranraer Hospital while in a state of delirium. At the time of his escape his temperature was excessively high, and, being in a nude condition, he rapidly cooled; the shock was never recovered from, and he died on the 14th inst. The disease does not seem to be spreading, the precautions taken for its arrest being complete and satisfactory.

PROLONGED GESTATION.—Dr. L. Mervin, Maus, U.S.A., reports (*New York Medical Journal*) a case of prolonged gestation which he believes authentic. The period of pregnancy, calculating from the time of last menstruation, was 334 days. At the end of this time the patient bore a healthy male infant weighing nine pounds. This almost breaks the record, though Simpson mentions a case in which delivery occurred 336 days after menstruation ceased. Playfair places the extreme limit at 295 days.

DEATH OF MR. WM. E. POOLE.—The death of Mr. Wm. E. Poole, for many years Registrar of the Medical Society of London, will cause the sincere regret of all who have had occasion to appreciate the conscientious and urbane manner of the deceased. He had secured the respect and esteem of many generations of officials of this historical society, as was testified to in several touching references made to his age and infirmities at the annual dinner.

THE Official Minutes of Convocation of the University of London, show that 733 members were present during the debate on May 12th, and that 197 ayes voted in favour of, and 447 (not 461) noes against, the adoption of the scheme of the Senate. An analysis of the division list gives—Arts and Laws: 116 ayes, 276 noes; Medicine: 71 ayes, 136 noes; Science: 10 ayes, 35 noes.

THE third century since the discovery of the microscope will be completed in August next, and a historical exhibition is being organised to take place at Antwerp during that and the following month, at which the different phases in the evolution of the microscope will be exemplified by specimens. Possibly such of our readers as are in possession of instruments, interesting on account of their antiquity or imperfections, may be willing to lend them for the purpose.

DR. NEAL HARDY, one of the Pennsylvania Railway surgeons, recently performed amputation at the hip. Having first exposed the descending aorta by abdominal incision, and thus enabling hæmorrhage to be controlled by an assistant, who compressed the vessel with his fingers. The patient made an excellent recovery, and the *Journal of Railway Surgeons*, which reports the case, observes that Dr. Hardy is the first to carry out this method of checking blood-loss in such operations

HYPNOTISM.—A correspondent (says the *Medical Press*) relates an episode, which does *not* bear the stamp of authenticity, of a certain hypnotiser who "suggested" to a gentleman visitor that he stood *in loco matris* to a troublesome infant whose cries disturbed the peace of the household, and the visitor, having complacently assumed possession of the infant, was left in charge for a while. The hypnotic condition does not inhibit inherent tendencies, and the result was that the pseudo mother forthwith took the infant off to the Foundling Hospital, just as he would have done had he been really the parent. As he had no recollection of what had transpired on awakening from the hypnotic sleep, a further *séance* was necessary in order to discover the whereabouts of the infant. It is satisfactory to note that all came right in the end.

THE *Gaulois* publishes details of a report submitted to the Academy of Medicine by Dr. Bernheim, with reference to his latest experiments in the transfusion of goats' blood. The doctor states that out of the fourteen patients whom he has treated, two young girls who had reached the last stage of anæmia have been cured, and ten persons suffering from tuberculosis have greatly improved. On the other hand, two patients in an advanced stage of consumption, who were not influenced by the treatment, died six weeks after the first transfusion. Dr. Bernheim adds that his method exercises an important action on consumption in its earlier stages, but should not be resorted to in the case of patients in the last period of the disease. After the Koch *fiasco* British physicians will be very cautious with regard to experimentiug with goat's milk.

MENSTRUATION AND ASEPSIS.—An American contemporary seriously discusses the question as to whether nurses ought to be allowed to attend surgical cases while menstruating. The opinion has, it seems, been gaining ground that their presence in the sick room in this condition is attended by some danger to the patient, and several surgeons at Chicago and New York are reported to have excluded menstruating nurses from all major operations. Such a rule, if enforced, would be a serious matter to the surgical nurse, for it involves three months' incapacity for service out of the twelve; in fact, it would be tanta mount to driving women out of the field altogether, so far as the more serious cases are concerned. It is pointed out, however, that though menstrual blood is already partly disintegrated and rapidly becomes offensive, the same is true of perspiration and other excretions. It would be as rational, it is urged, to exclude every perspiring man from the operating theatre as to exclude every menstruating woman. Fortunately, the nurses have Mr. Lawson Tait on their side. This gentleman "cannot imagine anything more ridiculous" than the suggestion of any evil result being likely to follow the presence at operations of such women. It is impossible to affirm that there is absolutely no possibility of danger, but it obviously cannot be very great, or our own antiseptic surgeons would have had heard of it long since.

COCAINE AND COCAINISM.—M. Magitot took occasion at the last sitting of the Academy of Medicine to trace, in a very complete way, the history of cocaine. He stated that, after careful inquiry and research, he could not share the prejudices that had grown up in certain quarters against its use as a local anæsthetic in practical surgery. M. Magitot made several suggestions which might be taken as the code for administering cocaine in surgery—viz.:—(1) The dose of cocaine should be in proportion to the surface to be acted upon, but should in no case exceed eight or ten centigrammes for an extensive operation. (2) It should never be employed with persons suffering from a weak heart, or in cases of chronic malady of the respiratory organs. (3) Its introduction into the veins should be avoided. (4) The injection of cocaine should always be made on the patient when in a reclining position, raising him afterwards in cases of operation of the head or mouth. (5) Cocaine should be of absolute purity, certain alkaloids with which it may be mixed being of a particularly poisonous nature. (6) The introduction of the cocaine should be made in such a manner that a weak partial injection can be followed by a rest of several minutes, during which any symptoms of poisoning would be noticed. (7) Employed thus, in a graduated

and methodical way, cocaine offers considerable advantages over chloroform, ether, &c. The duration of the anæsthetic effect is sufficient to permit of all ordinary surgical operations.

How to Keep the Paquelin Cautery in Good Order.—It is claimed that Paquelin's cautery would never be found out of order if the following instructions, given by M. Colin, were followed strictly:—The benzine employed should be of from 700° to 720°, using the petroleum densimeter, at a temperature of 59° F., that is to say, it should weigh from 700 to 720 gm. to the litre. At most, it should not occupy more than a third of the capacity of the reservoir. In case of need, the hand-bulb may be replaced by a pair of bellows. During the whole operation, the temperature of the benzine should be kept at from 59° to 68° F., to accomplish which it is only necessary to hold the reservoir in the hand or carry it in one's pocket. Too high a temperature hinders the incandescence of the cautery. The platinum point should be placed in the lateral portion of the flame, at the level of the centre. Use pure alcohol for the lamp. Avoid heating the platinum to the luminous point. If the cautery cools off, work the bulb vigorously, and if necessary place the point in the flame again. When the operation is finished, before allowing the cautery to become extinguished, bring it to a bright red by a few rapid insufflations, and then, while it is fully incandescent, detach the rubber tube from the handle suddenly. Let the cautery cool in the open air. Cleanse it with a moistened rag. If the instrument is not used very often, it is well to heat the various points from time to time.

The Notification of Purulent Ophthalmia.—There is only one way of effectually diminishing or preventing the evil effects of ophthalmia neonotorum, and that is by making the notification of it compulsory. The *role* played by the disease in causing blindness is too well known to require more than merely mentioning, and yet there are few afflictions so amenable to treatment when seen at an early stage, than that under discussion. It follows, then, that generally eyes which have been lost by purulent ophthalmia are eyes which might have been readily saved by well-adapted treatment. To give verbal or even printed directions to nurses and midwives in reference to infants' eyes from which discharge is exuding, is a worthless proceeding. At the proper moment the right thing is never done; the gravity of the case is never appreciated, and valuable time is frittered away, because, forsooth, those in attendance upon the baby are perfectly satisfied in their own minds that there is only a "little cold in the eyes" which bathing with "milk"—the great domestic remedy as a lotion—will be amply sufficient to relieve. When, however, the child ultimately comes under the notice of the ophthalmic surgeon, there is generally more to be done than to "patch up" cornea which are opaque and probably either perforated or deeply ulcerated. Under the system of notification, this deplorable state of things might be effectually remedied. Every midwife, attending a labour by herself, would be required to report to the Medical Officer of Health, within the shortest time possible, the fact that pus was beginning to collect about the infant's eyes. Failure to make this notification would be punishable with a fine. Thus, the eyes would be subjected to careful supervision until all danger was past, and opportunity would be afforded for timely treatment, before any harm could ensue. We see no reason, indeed, why the notification of purulent ophthalmia should not be compulsory throughout, upon the same lines as all those other diseases which are included in the notification schedule.

The Work of the Pharmaceutical Society in 1889-90.—The work of the Pharmaceutical Society is one which is annually becoming of more importance to our Profession. This society, in 1888, decided to establish a research-laboratory for the prosecution of pharmaceutical research under the direction of their Professor of Chemistry. To ensure the success of the undertaking, a committee was appointed, consisting of men eminent in pharmacy and medicine. Of course, a small society could not maintain a vast establishment like those of Dorpat, Marburg, and Strassburg,—there being neither the means nor the accommodation,—but the new departure was intended to be of the nature of an experiment, in which, if successful, the other corporations might be willing to join. It was hoped, for instance, that a drug, the chemistry of which could be worked out in the pharmaceutical laboratory, might be handed on to another laboratory for an examination of its pharmacology and therapeutics, and that thus complete and accurate work might be obtained. As was pointed out by Professor Foster at the first meeting to receive the report of the Laboratories Committee, much of the work of pharmacological investigators in the past had been rendered valueless by reason of the fact that they had worked with impure drugs. Such a deplorable result could not happen if pharmacological laboratories could be associated with pharmaceutical and chemical research laboratories. This scheme has in part been carried out, although not quite in the manner ultimately desired. Pure drugs have been prepared in the laboratory, and submitted to private investigators, such as Prof. Cash, who have studied their pharmacological action. Since its institution in 1888, the laboratory has issued much important work. The first question studied was that of the impurities of the organic nitrites. It was shown that these bodies, even when reputedly pure, consist of varying mixtures of substances. These bodies were separated by Prof. Dunstan, and submitted to Prof. Cash, Dr. Lauder Brunton, and Mr. Bokenham, who investigated and reported on their pharmacological action. Several of these reports have already appeared in the Journal of the Society. Another very important research, which is still in progress, was originated with a view of studying and isolating the impurities of artificial salicylic acid, to which attention had been drawn by Prof. Charteris. The impurities of this substance were found to consist of various cresotic acids, and these have been submitted to Prof. Charteris and Dr. Brunton for examination. The results obtained, however, up to the present, cannot be regarded as conclusive, and we await with interest the final report of the investigators. Severa other researches of a similar nature have been either completed, or are in progress at the present time, but the above are sufficient to show the excellent nature of the Society's work. The need for such investigations was pressing, and it is greatly to the credit of the Pharmaceutical Society of Great Britain to have been the pioneers in this direction. We hope it will meet with the encouragement it deserves from the other great scientific and medical bodies.

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